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# The Journal of the TENNESSEE STATE MEDICAL ASSOCIATION



Table of Contents on Page IV

Index to Advertisers on Page L

Mid-South Postgraduate Medical Assembly, February 8, 9, 10, 11,  
1955, Hotel Peabody, Memphis, Tennessee

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# Journal of the Tennessee State Medical Association

OWNED AND PUBLISHED BY THE ASSOCIATION

Volume 48

JANUARY, 1955

Number 1

*The importance of the prediction of any abnormal tendency to bleed is of unquestioned importance before embarking upon surgery. The question is, how accurate are the tests as performed and what constitutes the best evaluation of a tendency to bleed?*

## PREDICTION OF THE TENDENCY TO ABNORMAL BLEEDING DURING OR FOLLOWING SURGICAL PROCEDURES

L. W. DIGGS, M.D.,\* Memphis, Tenn.

Episodes of severe and unexpected hemorrhage occur on every surgical service and usually lead to the formulation of rules requiring routine preoperative tests for hemorrhagic disease. The tests most frequently chosen are the bleeding time and coagulation time. The authorities who make the rules do not provide extra technologists and do not stipulate the exact manner in which the tests are to be performed. The laboratory staff charged with the execution of routine tests is forced to adopt "short-cut" and unreliable procedures because the performance of standard procedures requires a minimum of 30 minutes for each patient examined.

The modifications which are usually adopted are the bleeding time after a puncture of the skin of the finger tip and a coagulation time utilizing drops of blood from the skin puncture wound. The bleeding time by this method is short for the thick and elastic skin closes over the wound and promptly stops the flow of blood. The coagulation time is short because the blood is mixed with tissue thromboplastin which is a potent activator of the clotting process. Exposure of the blood to relatively large foreign surfaces also favors rapid coagulation. A prolonged bleeding time or coagulation time by these methods is significant, but normal values which are usually obtained do not exclude hemorrhagic disease. In spite of the known errors, the tests continue to be used, for they satisfy the edict

of the hospital and require little time. The surgeon who receives the report of normal findings operates with a false sense of security, for he assumes that reliable tests have been performed and that hemorrhagic diseases have been excluded.

In some hospitals the capillary fragility (tourniquet test) is employed routinely as a preoperative test. This procedure, in contrast to the bleeding and coagulation time, is unreliable in predicting the tendency to bleed at the time of operation because it is too sensitive. An appreciable number of normal adults will have positive tests and many children with chronic infections, allergic conditions and nutritional deficiency will reveal a few petechiae in the forearm when stasis is produced for 10 or more minutes by an inflated blood pressure cuff above the elbow. Experience has shown that tonsillectomy and other operations performed on patients with positive tourniquet tests in the absence of other symptoms and signs are not necessarily attended by abnormal bleeding.

It is time that we as physicians re-evaluate our procedures and adopt methods that will reduce the cost of medical care and at the same time protect our patients. The present methods increase the cost without protecting the patient.

In the opinion of the author, the routine tests for predicting the tendency to bleed during or following surgery are the history, the physical examination and standard hematological procedures. Routine hemorrhagic studies are superfluous. In those patients who have signs and symptoms of

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hemorrhagic disease hemorrhagic studies by reliable methods are indicated.

### History

In predicting the tendency to bleed abnormally at the time of surgery, the history is more reliable than all laboratory tests combined. Brushing of teeth, blowing the nose, shaving, wearing tight clothing, bumping against objects, falls, cuts, insect bites, menstruation and loss of teeth are all tests of trauma, which are likely to reveal hemorrhagic tendencies if they are present. In taking the history, one should inquire about hemorrhagic episodes since birth. A recommended list of questions to be asked is given in Figure 1. Blood loss from minor

### Family History

Is there a history of abnormal bleeding in any member of your immediate family (blood relatives)? \_\_\_\_\_

### Personal History

Do you consider yourself to be an "easy bleeder"? \_\_\_\_\_

Do you bruise easily? \_\_\_\_\_ Do you have hemorrhages under tight clothing? \_\_\_\_\_

Has there ever been excessive bleeding following cuts? \_\_\_\_\_, surgery? \_\_\_\_\_, tooth extraction? \_\_\_\_\_

Has there ever been small hemorrhages into the skin? \_\_\_\_\_, spontaneous bleeding of the nose? \_\_\_\_\_, gums? \_\_\_\_\_, lungs? \_\_\_\_\_, stomach? \_\_\_\_\_, lower bowels? \_\_\_\_\_, kidneys and bladder? \_\_\_\_\_

Has there been excessive uterine bleeding? \_\_\_\_\_, abnormal bleeding following pregnancy? \_\_\_\_\_

Has bleeding ever been severe enough to call a physician? \_\_\_\_\_, to cause fainting? \_\_\_\_\_, to require transfusion? \_\_\_\_\_

FIG. 1. Suggested preoperation questionnaire to predict abnormal bleeding at the time of surgery.

wounds which are severe enough to cause the patient to seek medical aid, to faint, to become anemic or to receive transfusions is significant. Failure to bleed abnormally following major accidents, operative procedures and dental extraction rules out hereditary hemorrhagic disease. A negative family history also tends to exclude inherited abnormalities. If the patient has no personal or family history of abnormal bleeding, it can be assumed that hemorrhagic diseases are not present or are too mild to

cause difficulty in hemostasis at the time of operation.

### Physical Examination

The physical examination made previous to surgery is also a reliable index of hemorrhagic tendency. Some of the warning signals include:

Ecchymoses, hematomas, petechiae, extravasations of blood at sites of hypodermic injections or needle puncture wounds

Retinal and scleral hemorrhages

Crusts of blood in nares

Gingival hemorrhage, edema or necrosis

Stiff, swollen and deformed joints (hemarthroses)

Enlargement of lymph nodes, splenomegaly, hepatomegaly, jaundice, marked pallor, spider naevi, dilated skin vessels, erythema, urticaria and localized areas of pigmentation are additional manifestations of disease which may be associated with hemorrhagic phenomena.

If the patient is losing blood from any system, careful search should be made for petechiae, ecchymoses and physical signs of abnormal bleeding elsewhere. Hemorrhagic phenomena in more than one site is presumptive evidence of systemic disease.

### Laboratory Screening Procedures

The screening hematological procedures of patients scheduled for surgery should include one of the tests for anemia, preferably the hematocrit or hemoglobin estimation, a white cell count and an examination of the blood smear. Examination of the blood smear and report should not be limited to the differential leukocyte count, but should include a description of the erythrocytes and thrombocytes. It has been the author's experience that uncontrolled hemorrhage at the time of tonsillectomy, dilatation and curettage, biopsy or other operations is most often due to leukemia or thrombocytopenia that has been missed because of failure to perform standard hematological procedures rather than due to hemophilia or other hereditary disease which have been missed because hemorrhage studies were not performed.

### Tests Indicated in Hemorrhagic Diseases

Although routine tests for hemorrhagic



disease are not indicated on all patients who are scheduled for surgery, there are numerous situations in which hemorrhage studies by standard methods are indicated. In patients who have symptoms and signs of hemorrhagic disease, who consider themselves "easy bleeders" or who have diseases such as leukemia or cirrhosis which are frequently characterized by hemorrhagic tendencies, multiple hemorrhagic tests should be performed before surgery is attempted. The procedures recommended are:

1. The Ivy bleeding time (blood pressure cuff above elbow, 40 mm.Hg. pressure, 4 mm. depth skin puncture using Hemolet).
2. Capillary fragility test (blood pressure cuff above elbow, pressure half way between diastolic and systolic levels, with maximal of 100 mm.Hg. for 10 minutes).
3. Coagulation time of venous blood (1 ml. in each of 4 small test tubes; tubes tilted at 30 second intervals; reported coagulation time is the average of the last 3 tubes).
4. Clot retraction and character of the clot (5 ml. venous blood in graduated tube, clot removed after 4 hours).
5. Thrombocyte count (number of thrombocytes in 100 oil immersion fields of a stained blood smear).
6. Prothrombin time (Quick one-stage method)

The normal values for these tests and a recommended report form are given in figure 2.

### Special Hemorrhage Study

Date \_\_\_\_\_  
 Name \_\_\_\_\_  
 Age \_\_\_\_\_ Sex \_\_\_\_\_  
 Doctor \_\_\_\_\_

|                                       | Patient | Normal       |
|---------------------------------------|---------|--------------|
| Bleeding Time (Ivy)                   |         |              |
| Free Flow                             | _____   | 1-6 minutes  |
| Oozing of blood-tinged fluid          | _____   | 1-4 minutes  |
| Capillary Fragility (Tourniquet Test) | _____   | No petechiae |
| Clotting Time (Four tube method)      | _____   | 5-20 minutes |
| Clot Retraction.                      |         |              |
| Per cent serum expressed              | _____   | 40-60%       |

Fluid volume per cent of clot \_\_\_\_\_ 0-20  
 Clot characteristics:

Thrombocyte Count  
 Direct count (per cu. mm.) \_\_\_\_\_ 200,000-400,000  
 Number per 100 oil immersion fields \_\_\_\_\_ 300-600  
 Prothrombin Time (Quick Method) \_\_\_\_\_ sec. \_\_\_\_\_ sec.  
 Concentration % \_\_\_\_\_ % 100%  $\pm$  10

### ANALYSIS OF ABNORMALITIES.

### INTERPRETATION.

Examined by \_\_\_\_\_

FIG. 2. Report form recommended for "Special Hemorrhage Study."

If the above tests are performed correctly, and there is no evidence of abnormality in any of the tests, it is unlikely that there will be difficulty in the control of hemorrhage at the time of operation. If the capillary fragility test is positive and all of the other tests are negative, there is likelihood that hemostasis will be a little more difficult than in a normal individual, but as a rule the hemorrhage can be readily controlled. If the bleeding time, coagulation time or prothrombin time are significantly prolonged, the thrombocytes are decreased, or the clot is defective, there is increased risk of hemorrhage following trauma. The decision concerning operation will depend on the diagnosis, the type of operation to be performed and its urgency.

### Hemorrhage Procedures Indicated in Special Conditions

**Tonsillectomy.** Because tonsillectomy and adenoidectomy are among the most frequently performed operations and because hemorrhages of a severe nature are so common, routine preoperative hemorrhagic tests are required by many hospitals. In older children and in patients on whom it is possible to get a reliable history and who have no symptoms or signs of abnormal bleeding, there is no more reason for routine preoperative tests for hemorrhagic disease in "T and A" cases than in any other procedure. There is no official recommendation by standardizing agencies that routine hemorrhagic tests be performed. The

surgeon will not be considered negligent if he does not order such tests, provided he takes a history and performs a physical examination and screening hematological procedures. In infants who have not been exposed to tests of trauma or in children on whom a reliable history cannot be obtained, preoperative hemorrhagic studies are indicated.

It is likely that many physicians who are accustomed to performing routine hemorrhagic studies on patients scheduled for tonsillectomy will be unwilling to omit these tests. There is no contraindication to performing such tests provided reliable methods are used. If one test only is to be used, the test should be the Ivy bleeding time and not the coagulation time.

Hemorrhage that occurs days after tonsillectomy is usually due to necrosis and sloughs of the highly vascular granulation tissue, to fibrinolysis of blood clots in arterioles and to ligatures which come off and become untied. Preoperative tests will not aid in predicting such episodes. Hemorrhagic studies are indicated at the time of postoperative bleeding even if they were negative before the original operation. If the hemorrhage studies reveal no abnormality, the surgeon knows that the bleeding is not due to a systemic abnormality. He then proceeds to take the patient back to the operating room to get good exposure and to find and tie the bleeding points or to apply the cautery.

*Circumcision and Other Operations on Infants.* In newborn infants scheduled for circumcision or other operations, preoperative studies for hemorrhagic disease including bleeding time and coagulation time are indicated. In young babies, it is difficult to obtain venous blood from superficial veins. If the child has hemophilia or other severe hereditary disease, it is dangerous to puncture deep veins. Therefore, in this age group it is recommended that blood from a skin puncture wound be used in determining the clotting time and that a puncture of the heel or toe be used in lieu of the Ivy bleeding time. These technics which are not acceptable in older children and adults are reliable in infants, for the skin of a baby is very vascular, the vessels are near

the surface and the epithelial layer is thin. It is imperative that the skin be punctured by a cutting instrument such as a No. 11, Bard-Parker blade, so that the blood flows freely and mixture with tissue thromboplastin is reduced to a minimum.

#### Miscellaneous Conditions

Patients who are bleeding from the nose, vagina, intestinal tract, lungs or any other organ should have minimal hemorrhage studies performed before biopsy or any other surgical procedure is attempted. These tests should include the Ivy bleeding time, test tube coagulation time, observation of the clot retraction and the appraisal of the number of thrombocytes by the examination of the stained blood smear.

In patients with congenital heart defects who are scheduled for cardiac surgery, hemorrhage studies are indicated for patients with these anomalies are more likely, than are normal individuals, to have vascular abnormalities and deficiencies in plasma coagulation components.

In patients with jaundice or liver diseases, and in patients receiving Dicumarol, Tromexan and other anticoagulant drugs, which interfere with prothrombin formation and stable factor, the test for prothrombin time should be performed previous to surgery. The prothrombin time is also specifically indicated in any condition in which there is a prolonged coagulation time, for this test is of great value, in differentiating diseases due to deficiencies in plasma thromboplastin precursors from other diseases. (Table 1.)

Table 1

THE VALUE OF THE "PROTHROMBIN TIME" IN THE DIFFERENTIAL DIAGNOSIS OF HEMORRHAGIC DISEASES

| "PROTHROMBIN TIME"<br>(QUICK ONE-STAGE METHOD) |                                 |
|--|---------------------------------|
| <i>Normal</i>                                  | <i>Prolonged</i>                |
| Hemophilia                                     | Prothrombin deficiency          |
| Christmas disease                              | Stable factor deficiency        |
|  | Labile factor deficiency        |
|  | Fibrinogen deficiency           |
|  | Excess anticoagulants           |
|  | Increased fibrinolytic activity |

Hemorrhage studies are imperative in obstetrical conditions in which there is profuse vaginal bleeding at the time of labor, in order to guide therapy and to make the proper decisions concerning operative procedures. If the patient has retroplacental hematoma, placenta previa or dead fetus, amniotic fluid and degeneration products of the fetus may be infused into the maternal circulation by the uterine contractions. These substances have potent thromboplastic properties and cause systemic intravascular coagulation and defibrination of the blood. Fibrinogenopenia is further favored by the activation of fibrinolytic enzymes and by injury to the liver which interferes with fibrinogen formation. At the time the patient is first seen she is usually in shock and bleeding from multiple sites. The incoagulable blood seeps through vaginal packs. It is the responsibility of the physician (not the technicians) to determine the clotting time of the blood and to note the character of the clot at the time venous blood is drawn for typing and cross matching. If the blood clots slowly and the clot is soft and fails to entrap the red cells in its mesh, the hemorrhagic state is due to fibrinogen depletion. Hysterectomy, cesarian section and other major surgical procedures are contraindicated. Intravenous fibrinogen is indicated immediately. If this is not available multiple transfusions of plasma or whole blood are indicated, for in a short time the patient will go into intractable shock and die.

Sometimes, during the later phases of an operation, hemostasis becomes difficult and the patient oozes blood from all cut surfaces. This emergency situation is most often encountered in operation on the lungs, pancreas and prostate and is due to fibrinogen deficiency. The surgeon should collect blood from the operative wound or vein and note its clotting time and the character of the clot formed. If the blood clots slowly, fibrinogen must be supplied. The addition of topical thrombin\* to the blood causes it to clot immediately if fibrinogen is present, but will not cause immediate coagulation if fibrinogen is absent.

\*Fibrindex—thrombin (human) 50 units, for critical fibrinogen determination. Ortho Corp., Raritan, N. J.

### Summary

The routine procedures indicated to predict the tendency to bleed during or following surgery are the history, physical examination, hematocrit, white cell count and blood smear examination. Routine hemorrhage studies are not indicated.

The determination of the bleeding time from needle puncture wounds of the finger tip and the coagulation time by micro-methods are unreliable. With the exception of tests for hemorrhagic disease in infants, these procedures should be banned.

Patients who have signs and symptoms of hemorrhagic disease should be studied for vascular and plasma component abnormalities by multiple tests which should include: Ivy bleeding time, capillary fragility test, test tube coagulation time, examination of the characteristics of the clot and the percentage of serum expressed after retraction, the thrombocyte count and the prothrombin time.

Patients with jaundice or liver disease, patients receiving anticoagulant drugs or who are bleeding from any organ should have preoperative hemorrhagic tests. Hemorrhage studies are also indicated in infants scheduled for circumcision or other operations and in children on whom cardiac surgery is contemplated.

Routine preoperative hemorrhagic studies are not necessary in patients scheduled for tonsillectomy and adenoidectomy, provided there are no signs and symptoms suggestive of bleeding tendency. If only one test is performed, this test should be the Ivy bleeding time and not the coagulation time. There is no contraindication to the performance of routine hemorrhagic test on "T and A" cases, but there is a contraindication to performing such tests by the unreliable finger puncture methods which are in common use.

In obstetrical patients who begin to bleed during labor or in surgical patients in whom hemostasis becomes difficult in the later stages of the operation, fibrinogenopenia is to be considered as a possible cause. The determination of the coagulation time and the examination of the clot is indicated, so that the patient's life can be saved by the immediate administration of fibrinogen or plasma and/or whole blood which contains fibrinogen.



*Though the pattern for the chemotherapy of tuberculosis has not been fixed as yet, the author reviews it as of the present. His plea for a diagnosis before treatment is blindly instituted on the basis of a shadow on the X-ray film is well taken.*

## PULMONARY TUBERCULOSIS: TRENDS IN CHEMOTHERAPY AND ANTIBIOTIC THERAPY\*

H. R. ANDERSON, M.D., Nashville, Tenn.

The past ten years has been challenging and exciting to those interested in the treatment of tuberculosis. It has seen the addition of specific drug therapy to the time honored treatment of rest and collapse therapy.

In many respects drug therapy has completely changed the outlook of the physician in his handling of the disease. In situations previously considered hopeless, there is now hope of recovery or at least prolongation of life. Drug therapy, along with improved surgical technic, has led to the frequent use of pulmonary resection in the treatment of pulmonary tuberculosis.

### History

The search for a drug for use in treating tuberculosis has been going on for as long as the disease has been recognized. However, it was not until about ten years ago, when the sulfonamides were developed, that anything suggestive of an effective agent became available. Up until this time if rest, adequate diet and collapse measures were not enough to control the tuberculous infection, the patient only survived long enough (all too often) to infect others.

In 1939 sulfanilamide was reported to have a suppressive effect on tuberculosis in the guinea pig.<sup>1</sup> However, its effect upon clinical tuberculosis in human was negligible in doses that were possible to administer.

There followed the evaluation of other sulfa derivatives in the treatment of experimental tuberculosis, among them Promin and Promizole.<sup>2</sup> However, encouraging as were the observations that the tubercle bacillus could be suppressed by specific chemical agents, there was much to be desired in the actual application of these substances in

the treatment of tuberculosis in the human.

In 1944, with the discovery of streptomycin by Waksman et al.<sup>3</sup> and the demonstration of its effectiveness against the tubercle bacillus by Feldman<sup>4</sup> and Hinshaw and others a new era was born. There then followed its use in clinical tuberculosis by Feldman, Hinshaw and others in 1945. The results of these early experiments and observations were so encouraging that, as Dr. Feldman recalls in a recent article<sup>5</sup> that Merck and Company committed funds to build a plant to produce this agent in June, 1945.

### Streptomycin

There then followed hundreds of papers relative to the effectiveness, toxicity and development of drug resistant strains of bacilli in the streptomycin therapy of tuberculosis.

Some of you will recall various treatment regimes with streptomycin employed in 1946 and 1947, one regime of 1 gram intramuscularly daily for 42 days was used. It became evident that longer courses were desirable but in longer courses drug resistance became a problem and the patients would frequently deteriorate. At about 1950, the 120 day course of streptomycin was used. This seemed about the longest the drug could be given without prohibitive numbers of patients developing drug resistance. It was at about this time that the timing of definitive procedures in relation to streptomycin therapy became so important and to my way of thinking, this general principle is still one of our most important considerations. It was popular then to consider very strongly,—is this the 2 to 4 month period in the course of this patient's tuberculosis in which streptomycin will be most helpful?

In the early days, streptomycin was rarely used in minimal disease, pleurisy with effusion or in moderately advanced disease.

\*Read before the Upper Cumberland Medical Society, June 29, 1954, Red Boiling Springs, Tenn.

which was responding adequately to rest and other measures. It frequently was saved for use in hemoptysis with spread of the disease, to cover surgical procedures, the development of miliary or meningeal tuberculosis or similar critical situations, including advanced and near hopeless situations.

#### Para-aminosalicylic Acid

The next big step in the drug treatment of tuberculosis was the introduction of para-aminosalicylic acid (P.A.S.) in 1946, by Lehman<sup>6</sup> in Sweden. This drug, though exerting a bacteriostatic effect in tuberculosis, was by itself not too effective an agent; but the observation that with streptomycin it seemed to have a synergistic effect, and still more important, delayed and at times prevented the emergence of streptomycin resistant strains of tubercle bacilli, made it a valuable agent. This agent in combination with streptomycin was responsible for the development of the program of prolonged drug therapy of tuberculosis. By trial and error a program of streptomycin, 1 gram intramuscularly two times a week and P.A.S. 12 grams daily, in divided doses, was found to be very effective, and one that could be given for 6 then 9, 12, 18 and even 24 months or longer without significant toxicity to most patients. It was further noted that if closure of cavities was effected in the first five or six months of therapy, streptomycin resistant strains of organisms were not frequently encountered. At this point, a word about the relative merits of streptomycin and dihydrostreptomycin might be in order. Briefly there is essentially no therapeutic difference in streptomycin and dihydrostreptomycin and resistance to one usually means resistance to the other. Dihydrostreptomycin seems to produce more deafness and streptomycin more vertigo (neither is apt to do this with current dosage<sup>9</sup> of 1 gram two times weekly). However, recent work has indicated that a half and half mixture of the two drugs is just as effective and less apt to cause either of the toxic manifestations. So in patients requiring daily doses of 1 gram or more for long periods of time, this combination should probably be used.

#### Other Antibiotics

In 1950, Terramycin was found to exhibit

an in vitro bacteriostatic effect and on experimental tuberculosis in vivo<sup>7</sup>. In recent work it is being further explored as a substitute for P.A.S. in certain cases.

Viomycin was introduced as a therapeutic agent in 1950, and is a very effective agent but its use is limited by its toxicity; striking electrolyte changes and changes in the urine were noted.

#### Nicotinic Acid Derivatives

The other large group of related compounds, the nicotinic acid derivatives, made their advent on the American scene in about 1950 with amithiozone (Tibione).

Pyrazinamide (Aldinamide) and the hydrazine derivatives of isonicotinic acid followed in 1952. Tibione has about disappeared from the picture but Aldinamide may yet fill a place in the therapy of certain cases. No one denies its effectiveness but in current dosage the incidence of hepatic damage makes its use dangerous except under close hospital or sanatorium observation.<sup>10</sup>

Iproniazid and isonicotinic acid hydrazine made their entrance on the scene spectacularly, following the papers from Sea View Hospital, Staten Island, New York, in 1952.<sup>11, 12</sup> (The lay press obtained this information prematurely and the drugs were hailed as a panacea, though members of the profession held a more reserved position.)

Nevertheless, isonicotinic acid hydrazine (I.N.H.) has won itself a place on the "first team." Iproniazid is less frequently used because of its tendency to cause neuropsychiatric problems. So now in 1954 we are blessed with three very effective proven drugs: streptomycin, I.N.H. and P.A.S. and several less effective and/or more toxic drugs. There is no reason to think that other drugs will not be forthcoming, but we must content ourselves with those mentioned at the moment and use them wisely.

#### Combined Use of Therapeutic Agents

As one will note from the preceding remarks, streptomycin, P.A.S. and I.N.H. are now our most useful antituberculosis drugs.

The work to date indicates that P.A.S. is not as effective as either streptomycin or I.N.H. Further there is considerable undesirable gastro-intestinal symptomatology in

many patients on the drug. It causes anorexia, nausea, burning epigastrium distress and similar complaints in many patients; these symptoms though troublesome, rarely make it impossible or undesirable to continue with the drug. Cases of drug fever and rash occur but are not common. On rare occasions allergic manifestations do indicate discontinuing the use of the drug. However, when the patient's organisms are not resistant to P.A.S. it is a very satisfactory drug to use in combination with streptomycin or I.N.H. to prevent resistance to these more effective drugs. It also seems to have a synergistic effect with these two drugs. (There are those who question the importance of *in vitro* sensitivity studies with P.A.S. and some feel I.N.H. is just as satisfactory given alone.)

Streptomycin of course has been used for a long time and with current dosage of 1 gram twice a week significant toxicity to the auditory and vestibular mechanisms are rare. However, in patients who have received the drug for longer than six months a fair percentage complain of headache and dizziness and loss of sense of well-being on the day the drug is given. Allergic reactions still occur in some patients but infrequently. The main problem is the streptomycin resistant strain of bacilli. The drug's action is largely bacteriostatic.<sup>10</sup> The drug must be given by injection for the optimum effect.

I.N.H. is as effective and possibly slightly more effective than streptomycin, it is cheaper, well tolerated by most patients and can be given by mouth. I.N.H. resistant strains do develop when closure of cavities and conversion of the sputum is not achieved in the first four to six months of treatment. In administration of radioactive I.N.H. it has been shown that the drug freely diffuses into caseous areas.<sup>11</sup> This is a property not usually ascribed to streptomycin. I.N.H. is also largely bacteriostatic.<sup>12</sup>

In general, it is agreed in the treatment of any given case that it is important that at least two of the effective agents to which the patient's organisms are sensitive be given simultaneously.

The best combination of drugs is not definitely known at this time, since experience with I.N.H. is relatively short compared to

that with streptomycin, and the long term benefits or shortcomings of I.N.H. and its combination with other drugs is as yet unknown.

The Committee on Therapy of the American Trudeau Society<sup>13</sup> still recommends the streptomycin and P.A.S. regimen as treatment of choice in streptomycin sensitive cases. Tucker<sup>14</sup> has reported promising results in the use of an I.N.H. and P.A.S. regimen in streptomycin resistant cases. The U.S.P.H. cooperative investigation committee<sup>17</sup> on antimicrobial therapy of tuberculosis reported in January, 1954, that: I.N.H. plus P.A.S. seems to be as effective as I.N.H. plus streptomycin; and I.N.H. plus P.A.S. plus streptomycin was not superior to an I.N.H. plus P.A.S. regime.

Some generally accepted practical applications of these observations are:

(1) When at all possible the selection of the drugs to be given should not be made until the sensitivity of the patient's organisms to the various drugs is known by application of *in vitro* culture technic.

(2) The drugs should never be given for any length of time alone, at least two of them should be given together.

(3) If closure of cavity is not effected and conversion of sputum to negative is not attained within five or six months, the appropriate collapse or resection procedures should be carried out before drug resistance develops.

(4) Either streptomycin or I.N.H. should be held in reserve in case the patient does develop resistance to the other drugs in the course of therapy. In other words, it is very comforting to have I.N.H. to fall back upon if a lobectomy is indicated, and the patient has become resistant to streptomycin.

(5) It is advocated by some, if the patient is resistant to P.A.S., that Terramycin might be used with the other more effective drugs to prevent or delay development of resistance to the I.N.H. or streptomycin as the case may be.

(6) How long these drugs should be administered is not settled as yet, but many workers are giving the drugs in excess of 18 months now, or six months past the time



the disease can be classified as inactive by current standards.

(7) Should rest be given in addition to the drugs? The following quotation seems to summarize the current feeling on the matter:

The Committee on Therapy of the American Trudeau Society advises in a current report,<sup>18</sup> in part:

"While the use of drugs in the treatment of tuberculosis appears to have 'materially' shortened the period of recovery of the average tuberculosis patient and has caused a reduction in deaths among tuberculosis patients, this does not necessarily imply that indications for rest therapy during the active phases of tuberculosis have been altered.

"No conclusions can as yet be drawn from studies now in progress to determine to what extent bed rest may be safely dispensed with and whether in some types or stages of the disease bed rest may be an unimportant part of treatment. Until these studies are completed, the clinician will be well advised to adhere to established indications for bed care. Essentially these consist of relatively complete bed rest, in accordance with previously accepted principles, until all symptoms have cleared, no cavities can be seen on X-ray, lesions are stabilized and sputum is negative on culture.

"It should be borne in mind that the tuberculosis patient should be hospitalized if at all possible throughout the infectious stage of his disease. In addition to the benefits of hospitalization to the patient, this is sound public health practice to prevent the spread of infection."

(8) These drugs should not be started until bacteriological confirmation of tuberculosis is made, for the following reasons: If a patient receives these drugs for six to eight weeks or longer before an attempt is made to find the organism and, if after therapy, they are not found it may then be felt that a negative result is due to drug therapy, as is frequently the case. *Furthermore, a patient with histoplasmosis, bronchiectasis or bronchogenic carcinoma may be mistreated for tuberculosis.* If one is unable, in minimal disease or under other circumstances, to find the tubercle bacilli by smear or culture, at least skin testing, bronchoscopy, bronchograms, sputum cultures for fungi, and complement fixation for fungus disease should be done, as indicated, before assuming a lesion noted on chest X-ray is tuberculosis and before treating it as such.

So where does this leave the general practitioner, internist and others who see these patients in regard to treatment. I feel, if at all possible and before the use of drugs is started, that these patients should be admitted to a hospital or sanatorium for complete work-up. These studies should include sputum smears and cultures for tubercle bacilli and sensitivity studies to the various drugs. Routine audiograms, blood counts, urine examinations, blood chemical studies and liver function tests should be done, depending on which drugs are to be used, and pretreatment special X-ray views such as lateral, apical lordotic, oblique and stereoscopic views to localize the disease should be done. If resection is indicated later, the pretreatment location of cavities and dense lesions will be known.

In addition, skin testing, planograms, bronchograms, bronchoscopy and various other studies should be done in selected cases. When possible I feel treatment should be continued in the sanatorium or hospital at least until it is known that the patient is tolerating the drugs well and he is responding adequately and until a plan for definitive care is made. Assuredly these plans have to be altered, but it is helpful to get an idea if bed rest and drug therapy is all that will be required, or if four to six months after therapy with the drugs and rest have been begun, a lobectomy or thoracoplasty will probably be required. It is interesting that artificial pneumothorax is virtually never done now and pneumoperitoneums are infrequently done. Improved surgical skills and drug therapy has brought about this trend. After the program has been outlined through a sanatorium and its staff, or by a private chest specialist in a hospital, and if continuous sanatorium care to the stage of inactivity and rehabilitation of the patient is not possible, the patient can then be returned home on rest and drug therapy, to the care of his family doctor.

#### Summary

A brief review of the development of drug therapy of tuberculosis is presented.

The currently used drugs are briefly described and some of their advantages and disadvantages are discussed.

Some generally accepted principles in the

use of drug therapy are presented.

It is the writer's desire to in no way minimize the importance and usefulness of these drugs, but it is his wish that they not be given indiscriminately without adequate evaluation of the patient's over-all problem. Further, it is hoped that the drugs be used in proper relation to rest, surgery and other effective and time honored measures.

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### Isolated Valvular Pulmonic Stenosis: Clinical and Physiological Response to Open Valvuloplasty. By S. G. Blount, Jr., M. C. McCord, H. Mueller, and Henry Swan. *Circulation* 10:161, 1954.

This article presents the results of physiological studies pre- and postoperatively on 10 patients with isolated valvular pulmonic stenosis, 5 of which were operated on by the trans-ventricular approach and 5 by the trans-arterial approach.

The authors point out that, in the past, the trans-ventricular route of blind pulmonary valvulotomy has been used almost exclusively, and that the relief of the stenosis, as measured by postoperative follow-up catheterization studies was incomplete in most cases, and quite variable in degree. Their own 5 cases operated on in this manner agree with these findings. Using hypothermia, the authors have approached the stenosis from the pulmonary arterial side, and under direct vision, incised the stenosis widely. The post-

operative catheterization data on these 5 patients show uniformly good results, as judged by the reduction of the right ventricular systolic pressure to normal levels and the assumption of a normal contour by the pulmonary arterial pulse tracing. There was obliteration of the preoperative systolic pressure gradient from the right ventricle to the pulmonary artery in every patient. However, in all the patients a pulmonic diastolic murmur appeared postoperatively, which was considered to represent organic pulmonic insufficiency. This was thought to be of minimal physiologic significance but its ultimate effect must await the passage of time for evaluation. The authors recommend the trans-arterial approach as the method of choice in the surgical relief of isolated valvular pulmonic stenosis. (Reviewed for the Middle Tennessee Heart Association by Mildred Stahlman, M.D., Nashville, Tenn.)



## CASE REPORT

### Unilateral Exophthalmos Due to Lacrimal Gland Cyst\*

I. L. Arnold, M.D., Chattanooga, Tenn.

A cyst of the lacrimal gland large enough to cause marked exophthalmos is extremely rare. Duke-Elder<sup>1</sup> states that a congenital cyst of the lacrimal gland has been reported to cause a dislocation of the globe. Acquired cysts of the lacrimal gland have been reported in elderly people of which the exact etiology is not known. Histologically the cysts are lined with cubical epithelial cells. This type cyst possibly could be caused by inflammatory processes around the ductules followed by their dilation and the hypersecretion of the epithelial cells.

Reese<sup>2</sup> reports one case of a retention cyst of the lacrimal gland that was confused with a mixed tumor. Vrabec<sup>3</sup> described a case of a retention cyst found after an orbitotomy in the case of a unilateral exophthalmos of 88 millimeters.

The prognosis of this condition is excellent as compared to mixed tumors of the lacrimal gland or other malignant tumors which frequently require exenteration of the orbit.

#### Case Report

A 24 year old colored female was first seen on October 6, 1952, with a marked exophthalmos of the right eye. She gave a history of a somewhat more prominent right eye since childhood. However, for the past few weeks there had been a marked increase in the exophthalmos with some slight pain and swelling around the eye and diplopia.

*Examination* revealed an uncorrected vision of 20/100 in the right eye and 20/20 in the left eye. Corrected vision was 20/50 in the right eye and 20/20 in the left eye. There was a marked exophthalmos of the eye forward, medially, and inferiorly. (Fig. 1.) There was a hard palpable mass in the region of the lacrimal gland. Some edema of the conjunctiva was present and the lids could not close over the cornea. The fundi was clear except for some wrinkling and edema of the retina laterally. X-ray films of the orbit were normal and blood studies were normal.

*Impression.* It was thought that this was prob-



FIGURE 1

ably a mixed tumor of the lacrimal gland, lymphosarcoma, sarcoma, or dermoid of the orbit. A biopsy was done which was diagnosed as a lacrimal gland tissue. Since it was thought that the tumor was probably farther posteriorly, the patient was advised of the probable prognosis, if this were a malignant tumor.

*Operation.* Under general anesthesia, and with the pathologist prepared to make a frozen section, the orbit was explored through a brow incision. A fluctuant mass about the size of an English walnut was found. The cyst was adherent to the superior orbital wall and was ruptured in the process of removal. When the cyst ruptured, the eyeball literally dropped back in the socket.

*Pathology Report.* In the gross the specimen consisted of an irregular shaped portion of tissue measuring 4 x 2.5 cm. and there was present a previously opened and evacuated cystic cavity. The walls were smooth, shiny, and glistening with no papilloma noted. The cyst measured approximately 1.5 cm. in diameter. The surrounding portion of tissue cut with a uniform firm consistency.

Microscopic examination showed the cystic space lined with a flattened cuboidal to a pseudostratified epithelium, which for the most part was everywhere intact. In places there were cilia present. The wall was composed of hyalinized fibrous tissue in which there was some round cell infiltration and was associated with essentially intact acini of a lacrimal gland. Considerable round cell infiltration was associated with the scarring and lacrimal gland tissue. No evidence of any tumor formation or anaplasia was made out.

*Diagnosis.*

Cyst of lacrimal gland.

Chronic inflammatory reaction with scarring.

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#### Discussion

THOMAS M. JACKSON, M.D. (Memphis): Mr. Chairman, members of the society. It was my pleasure to work with Dr. Arnold on this very

\*Read before the Tennessee Academy of Ophthalmology and Otolaryngology, April 19, 1954, Nashville, Tenn.

interesting case. Before operation, several etiological possibilities were considered and fortunately or unfortunately all were wrong. Among these were neurofibroma, neurofibrosarcoma, mixed tumor of the lacrimal gland, dermoid cyst hemangioma, adenoma, and muco-epidermoid of the lacrimal gland. Also considered were such things as lipoma and liposarcoma and even meningioma. In retrospect, which is always the easiest way to make a diagnosis, lacrimal cyst with intercapsular hemorrhage could have been diagnosed by simple aspiration with needle and syringe.

However, it was decided to explore the field

preparing for the possibility of doing an orbital exenteration. The exploration was done with the results which Dr. Arnold has just presented. Pathologically, lacrimal cysts are rare. Reese in his textbook on orbital tumors mentions having seen one case. Duke-Elder mentions six cases of congenital cysts of lacrimal gland. It may be present at birth or delayed for several years. This type cyst has cuboidal epithelium and its wall may be partly composed of tissue of the lacrimal gland.

Finally, I wish to compliment Dr. Arnold on the results obtained in his handling of this case.

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### **Treatment of Subacute Bacterial Endocarditis.**

**Paul A. Bunn and Ellen T. Cook. *Ann. Int. Med.* 41:487, 1954.**

This review concerns the course of forty-eight patients treated for subacute bacterial endocarditis. In forty-two of the patients the definite bacterial etiology was established. In only six was the diagnosis based on the clinical findings. Thirty-six of the patients had rheumatic valvular heart disease.

Therapy usually with penicillin, 12,000,000 units daily, was started while the sensitivity of the infectious agent was being determined. After this was accomplished the level of the Penicillin dosage was adjusted as indicated.

Thirty-three of the group survived (69%) for the period of observation (3-59 months). The patients with aortic valvular disease did the poorest, both from the standpoint of immediate result and also in the degree of recovery of efficiency of the circulation. The results of the healed endocarditis of the aortic valve are in the similar therapeutic paradox seen formerly during the course of treatment of syphilitic aortitis with arsenicals.

The therapeutic agent was usually penicillin, often in combination with Streptomycin. It was given in amounts judged to be effective by the sensitivity tests and confirmed by observation of repeated blood cultures and the clinical course of the disease. For the organisms sensitive to less than 1.0 unit about 1,000,000 units of penicillin was given in 8-12 parenteral injections every 24 hours. If the organism was more susceptible, as little as 500,000 units were used. Resistant organisms may require as much as 5,000,000 to 36,000,000 units daily. The resistant organisms (about 30% of the cases) are more effectively treated with a combination of streptomycin (2 grams daily), and penicillin, the two drugs apparently having a synergistic effect. Insoluble penicillin was not employed. Benemid will delay the urinary excretion of penicillin and

2-4 grams daily by mouth may materially increase the blood levels and permit less frequent injections or a smaller total dosage. The total amount of penicillin may be dissolved in 250-500 cc. of saline or 5% glucose solution and administered by constant intramuscular or deep subcutaneous clysis. These antibiotic agents have a full bactericidal effect and are capable of penetrating the vegetations protecting the organisms. In addition, there are no associated important side effects.

Treatment should be continued for at least three weeks after all evidences, both bacteriological and clinical, of activity of the infection have ceased. Anti-coagulants are not used. No agents other than penicillin and streptomycin were used unless specifically indicated. The blood cultures in the successfully treated cases become sterile promptly in the first twenty-four hours and the temperature returns to normal within 3-4 days. Small emboli in the form of petechiae may persist for 10-14 days, but large emboli are rare after the first week. Abnormal urinary findings may continue for 2-3 weeks. Mitral murmurs rarely alter during treatment, but the character of aortic murmurs often does. Tachycardia may persist for more than two weeks, after the onset of treatment. Heart failure may be difficult to treat while the infection is active. If therapy is unsuccessful the failure will continue, evidences of infection persist and death will occur within 3-5 months from heart failure, nephritis, rupture of mycotic aneurysm, major emboli, or progressive debilitation, due to the unchecked infectious process.

A valuable prognostic sign, as anti-bacterial treatment is given, is the progressive decrease in the size of the heart. If this does not occur the outlook is poor.

A most serious complication is the occurrence of perforation or rupture of the aortic valve. This was the cause of death in six of the fifteen patients reported. (Abstracted for the Middle Tennessee Heart Association by Albert Weinstein, M.D., Nashville.)

## STAFF CONFERENCE

### Thayer Veteran's Administration Hospital, Nashville, Tenn.

#### Portal Hypertension and the Management of Its Complication of Bleeding from Esophageal Varices

DR. WILLIAM L. ALSOBROOK: Portal hypertension is believed to be caused by obstruction to the return flow of blood in the portal venous system. Sites of such obstruction are usually classified either as intrahepatic or extrahepatic. The intrahepatic type usually is due to cirrhosis in its various forms, either biliary or Laennec's. Another intrahepatic type is that of schistosomiasis in which the parasites actually plug the biliary radicals. The extrahepatic type may be due to one of many causes. The principal ones are thrombosis of the portal veins or of the splenic veins or cavernous transformation of the portal veins. Banti's syndrome is not a disease at all and cirrhosis is not now believed to occur after a pure extrahepatic block. Probably Banti in his original article was describing cirrhosis with congestion producing splenomegaly. Of particular interest in differentiating the types of portal hypertension is the prognostic significance of the results following surgery. In the group with extrahepatic obstruction, 90 per cent of the patients can be protected against further bleeding by a shunt procedure and the operative mortality is usually less than 2 per cent. In the intrahepatic group the figures are not quite so good.

The case for today is one of intrahepatic obstruction due to Laennec's cirrhosis. The cause of cirrhosis still remains rather obscure and the part alcohol plays in the pathogenesis of the disease is not certain. Cirrhosis can be produced in animals by giving a diet low in protein, especially the essential amino acids, choline and methionine; and in many areas of the world cirrhosis is a disease of people consuming a diet grossly deficient in protein. These observations have led to the concept that alcohol merely supplies calories without essential nutri-

tional substances. Some support has been given to this point of view by Best who has fed glucose isocalorically with alcohol to separate groups of animals and found an equivalent degree of cirrhosis in both groups. As of yet, very little is known as to the etiology.

Portal hypertension has been observed for many years though it has only been in the last ten years that any aggressive attack has been made upon the disease. As experience has been gained, the results of the treatment and the prevention of recurrent hemorrhage has become more impressive.

Without further comment, I would like Dr. C. M. T. Kirkman to give the history in this case.

DR. C. M. T. KIRKMAN: This 37 year old, white male, was admitted to this hospital for the fourth time on July 12, 1954, with the chief complaint of vomiting blood.

Initially, he was seen in December, 1950, because of a pterygium of the left eye. That admission was significant in that the physical examination was within normal limits.

*Second Admission.* He was seen for the second time on July 28, 1953, with the chief complaint of swelling of the abdomen of 18 months duration, an 18 pound weight loss, and the passage of tarry stools intermittently. There had been an excessive alcohol intake from 1944 to 1950 of one to two quarts of whiskey per week, and from 1950 to 1951 one pint of whisky per day.

*Physical examination* showed him to be a thin, chronically ill, pale, white male with a large protuberant abdomen. Examination of the abdomen revealed a hard, firm mass in the upper addomen extending from the left costal margin to the right iliac crest. This mass moved with respiration and was smooth.

*Laboratory data* revealed a BSP retention of 13%, at 45 minutes; prothrombin time of 50%; the thymol turbidity and cephalin flocculation tests were within normal limits; and the total serum protein was 6.1 Gm.%, with 2.7 Gm.% of albumin. G.I. series on that admission showed displacement of the stomach to the left by a large mass which was thought to be the liver.

Because of the size of this abdominal mass and the equivocal liver function studies, an exploratory laparotomy was advised. This was done and a large hob-nail liver was found. There was no gross evidence of neoplasia. Microscopic study of the tissue removed showed the characteristic picture of Laennec's cirrhosis.

The patient was discharged from the hospital on a high protein, high caloric, high vitamin diet.

*Third Admission.* The patient was next seen in this hospital on March 29, 1954, for evaluation. During the interval the patient had done quite



well and had gained approximately 25 pounds of weight. The intake of alcohol during the interval was denied. He gave a history of occasionally passing stools which were dark in color. *Physical examination* revealed many spider angiomas spread about the neck. The abdomen protruded and revealed a large, hard mass as before.

*Laboratory studies* were: total serum protein of 6.6 Gm.%, with 2.7 Gm.% of albumin; cephalin flocculation was 2+, and thymol turbidity was 4.5 units; prothrombin time was 43 per cent. Examinations of the stool for occult blood revealed the presence of blood. Hemoglobin was 12.4 Gm. and the packed cell volume was 39 volume per cent. An esophagogram was obtained, and the presence of esophageal varices noted (Figure 1).

The patient was discharged on a high protein, high caloric, high vitamin diet and was given a recall appointment to this hospital.

*Fourth Admission.* He was readmitted on July 12, 1954, as an emergency with a history of vomiting copious amounts of blood for three to four hours. He also had been having tarry stools intermittently.

*Physical examination* revealed the patient to be thin, pale, and in acute distress, with marked abdominal protuberance. Blood pressure was 120 systolic/70 diastolic with a pulse of 110. The skin again revealed numerous spider angiomas. The liver was the same size and the spleen was palpable one finger breadth below the left costal margin.

*Laboratory Studies.* Packed cell volume was 31 volume %; stools were positive for occult blood; the total serum protein was 6.4 Gm.% with albumin fraction 3.1 Gm.%; cephalin flocculation test was negative; thymol turbidity was read as 3 units; the BSP retention was 3% at 45 minutes; prothrombin time was 43% of normal.

*Course in the Hospital.* The patient was treated by esophageal tamponade with a Sengstaken tube. This controlled the bleeding. The blood loss was replaced by whole blood transfusion. On attempts to remove the Sengstaken tube, bleeding from the esophageal varices recurred and the reinstitution of the tamponade was demanded. The Sengstaken tube was finally removed from the esophagus without incident after seven days and no bleeding recurred. The case was presented to Combined Gastro-intestinal Rounds and it was decided that this patient would most likely benefit by a shunt procedure after his condition had improved sufficiently to withstand the procedure. It was also recommended that if bleeding recurred, a direct surgical procedure to control the bleeding should be carried out as an emergency. While being prepared for definitive surgery, numerous tooth extractions were done and much bleeding resulted. This was explained by the low prothrombin time.

On September 13, 1954, esophageal bleeding was resumed and the packed cell volume fell to 24. Decision was made to enter the chest and ligate the esophageal varices after blood had been replaced. Immediate bleeding was controlled by

means of the Sengstaken tube. On September 14, 1954, the chest was entered through the bed of the 8th rib and the esophagus identified and isolated. Considerable bloody oozing was noted about the esophagus. A 10 cm. long longitudinal incision was made into the esophagus and two long tortuous veins were noted, without ulceration and without bleeding points. A whip suture of ehromic catgut was placed about these veins. At this point considerable bleeding was noted to well up from the stomach. Consideration was given to the possibility of having to perform an esophagocardiotomy to stop the bleeding or to enlarge the incision into the stomach from the esophagus. This was decided against because of the obliteration of the esophago-cardiac angle which would follow the probability of adding regurgitation of gastric juices into the esophagus and thereby esophagitis superimposed on the esophageal varices. It was decided to enter the stomach through the diaphragm and to suture the bleeding gastric varices with a catgut whip stitch. This was done, and after a great amount of bleeding and considerable difficulty, bleeding was controlled. A Levine tube was left in the stomach.

Postoperatively the patient has done satisfactorily except for pulmonary edema on the second postoperative day, which was controlled by usual methods. Liver function studies have remained as before operation, and at present the patient is in chemical balance; no bleeding has recurred. On the seventh postoperative day the patient was started on small milk feedings and has progressed satisfactorily.

DR. ALSOBROOK: Dr. Sherman, will you show us the X-ray films?

DR. DAVID E. SHERMAN: Varices of the lower one-third of the esophagus as shown in the accompanying films were demonstrated by the Muller maneuver (figure 1). This maneuver produces an increased negative pressure in the thorax and is accomplished by closing off the mouth, pinching together of the nares and attempting to inhale (i.e., raising of the ribs and lowering of the diaphragm).

DR. ALSOBROOK: Is the Muller maneuver better than the Valsalva maneuver?

DR. SHERMAN: The Valsalva maneuver produces an effect opposite to that of the Muller maneuver in that it increases the intrathoracic pressure and therefore compresses the varicose veins.

DR. ALSOBROOK: How accurately can varices be demonstrated by radiography?

DR. SHERMAN: Varices can be demonstrated in approximately 50-60 per cent of the cases of cirrhosis of the liver. The ac-



FIG. 1

curacy of demonstration is approximately 90 per cent in those cases having varices.

DR. LOUIS Y. PESKOE: In connection with this case, a review of the condition known as portal hypertension is in order. The term portal hypertension was used by McMichael as early as 1932. This term was used to express the hemodynamic changes in the portal veins or its tributaries and the clinical picture which accompanies obstructive portal conditions. Whipple, in 1945, stimulated much interest in this subject with a surgical approach to reduce the increased pressure in the portal system.

A brief summary of the anatomy involved will help us understand the clinical picture and surgical approach. The liver has a dual blood supply, 75 per cent from the portal vein and 25 per cent from the hepatic artery. The same capillaries receive blood from the hepatic artery and portal vein, and the higher pressure in the hepatic artery is equalized by the unique anatomy of the liver, namely, that the venous capillary network is more numerous than the arterioles and that the venous sinusoids are larger than the terminal arterioles. The portal vein is formed by the junction of the splenic vein and the superior mesenteric vein and 40 per cent of the flow into the portal vein comes via the splenic vein. The portal sys-

tem has no valves allowing unimpeded back pressure. It is placed between two capillary networks, the system thereby draining the capillaries of the intestinal tract, pancreas, and spleen and emptying into the sinusoidal network of the liver. Because of the additional capillary bed, the normal portal pressure is 10-15 cm. of saline which is somewhat higher than the normal systemic venous pressure.

In portal hypertension the pressure arises to levels of 25-60 cm. of saline. The splenic vein has no direct anastomosis with the systemic veins. Therefore, the spleen is more severely affected than other organs by increased portal pressure. With increased pressure in the portal system avenues of collateral circulation are utilized to return blood to the systemic circulation, the most important clinically being those at the cardio-esophageal junction. Back pressure from the portal system via the coronary veins cause distention and elevation of the pressure in the esophageal veins which empty through the azygos system into the superior vena cava. These esophageal veins are superficial, lying in the submucosa and are easily distended. With the added insult of peptic regurgitation and resultant ulceration of the mucosa overlying the veins, plus the usual trauma of the passage of food, these veins are prone to rupture with resultant severe hemorrhage.

The increased portal pressure causes changes in the spleen, the term congestive splenomegaly being widely used to express these changes. Many of these patients develop hypersplenism. In 1894 Banti described the condition manifested by splenomegaly and anemia followed by evidence of cirrhosis of the liver. He felt that the hepatic changes were secondary to primary changes in the spleen. It is now felt that increased portal pressure is the primary factor and Banti's syndrome is referred to as the hypersplenism which can accompany congestive splenomegaly of portal hypertension. Hypersplenism may be due to splenic phagocytosis (Doan) or hormonal influence on the bone marrow (Damashek). It has also been pointed out that in no case of Banti's syndrome due to extrahepatic



portal obstruction does the liver become cirrhotic.

There are two major types of portal hypertension to which Dr. Alsobrook alluded. Clinically these cases of portal hypertension usually present themselves at the hospital with massive gastro-intestinal bleeding. Bleeding from esophageal varices is suspected if there is an enlarged spleen or evidence of cirrhosis is present. One looks for spider angiomas, evidence of collateral circulation in the abdominal wall, ascites, hepatomegaly and icterus. If actively bleeding and the diagnosis is not in doubt, a Sengstaken, triple lumen naso-gastric tube is immediately passed. This tube has one lumen connected to a gastric balloon, the second lumen to an esophageal balloon and the third lumen open to the stomach for purposes of aspiration or feeding. First the gastric balloon is inflated in the cardia of the stomach. The esophageal balloon is then inflated. The mechanical pressure on the varices in the esophagus and cardia of the stomach stop the bleeding. In those cases in which the diagnosis is in doubt, emergency esophagrams with thick barium is utilized to demonstrate the varices. In other centers esophagoscopy is performed and is reported to give a definitely higher percentage of positive diagnoses than the X-ray. A bromsulphthalein dye retention test administered at the time of admission and showing a large percentage of dye retention may point to liver disease. Of course, necessary blood transfusions and other supportive therapy are given as indicated. After bleeding is controlled, it is important to determine the site of portal obstruction. A decrease in serum albumin, abnormality of flocculation test and increased BSP retention indicate liver disease.

Definitive surgery at a later date to reduce portal hypertension should be considered. If there is evidence of decompensated liver disease an intensive medical regimen of diet, vitamins, bed rest and parenteral therapy is prescribed. Over a period of weeks improvement in liver function may be such that major surgery can be undertaken. It is not uncommon for patients to again bleed even while being treated on an

excellent medical regimen in the hospital. For this reason Linton advocates trans-esophageal ligation of the varices as a temporary measure after the initial bleeding is controlled with the idea that when the patient is in optimal condition one may proceed with major shunt surgery. If the serum albumen is below 2.55, BSP retention over 25 per cent in 45 minutes or if there is ascites with no reduction while on the medical regimen, major shunt surgery is contraindicated. Normalcy of the tests enumerated point to extrahepatic block.

If a large spleen is present studies of peripheral blood and bone marrow are indicated. In patients with a large spleen, anemia, and associated cytopenia, it is important to determine that the hematologic picture is due to hypersplenism. In these the bone marrow will show hyperplasia. The purpose of surgical treatment is to shunt blood from the high pressure portal system into the low pressure systemic veins. A reduction of as much as 20-30 cm. of saline has been reported in some patients. In those patients with varices due to either extra or intrahepatic portal obstruction and hypersplenism a splenorenal shunt with splenectomy and end-to-side anastomosis of the splenic to the renal veins is the operation of choice. In cirrhotic portal hypertension with varices and no hypersplenism direct portal caval anastomosis is preferred by many since it is believed to shunt a larger amount of blood into the systemic side.

In extrahepatic portal hypertension with varices and no hypersplenism,—splenorenal shunt is preferred as surgical mortality is lower and a future possibility of hypersplenism is removed.

In any event the above surgery is considered only in those who have had at least one episode of bleeding from varices. From the standpoint of prognosis, in nonoperative cases, Dr. Shull in an analysis of experience at the Massachusetts General Hospital found that only 40 per cent of patients with cirrhosis and demonstrable varices are alive at the end of one year whereas 90 per cent of those with extrahepatic obstruction and varices are alive at the end of the same period. Of the patients that die 45 per cent

succumb to massive gastro-intestinal bleeding, and in many more it was felt that bleeding contributed materially to the death. It is felt that with proper medical management plus the surgical procedures noted, the over-all prognosis in these patients has been improved and that the incidence of recurring hemorrhage is definitely decreased. The patient under discussion today is a good example of the intrahepatic type of portal hypertension due to cirrhosis, and of the combined medical-surgical management of such a problem.

DR. HARRISON J. SHULL: From the point of view of the person who has portal hypertension it seems to me that the most important question to be settled initially is the risk incurred by the patient from the existence of varices in the esophagus. One has little danger from portal hypertension beyond that of hemorrhage. The problem demanding therapeutic approach is that of actual or potential bleeding from varices when they can be demonstrated. It is therefore important in those disease conditions in which portal hypertension is known to occur to search the esophagus early and carefully for varices. Schatski, who pioneered this diagnostic method, beautifully demonstrated its accuracy if painstaking care was taken to visualize, both by fluoroscopy and spot films, the esophagus in multiple tangential views. The existing varices may be missed in a tragically high percentage of examinations if only the usual routine X-ray examinations of the esophagus is employed. Should careful X-ray examinations fail to show varices in the patient with suspected portal hypertension or with one of the diseases known to be complicated at times by portal hypertension it is my belief that one should not hesitate to have the patient's esophagus directly visualized by the esophagoscope. No important risk is incurred by such a patient when this procedure is carefully done by a competent person.

Once the existence of varices is shown the problem of further management of the patient becomes a very real one. Not very much evidence exists from reported experience that a patient who has not bled from his varices warrants surgical intervention although this is a moot question. Once the

patient has bled from varices then the weighing of the danger of future bleeding against the risk from the disease which underlies the portal hypertension becomes the real crux of the decision which has to be made. It serves little purpose to operate upon a person so seriously ill with liver disease that his prognosis on this score alone is poor, or for whom the operative procedure itself may increase the risk to the patient beyond that which he incurs in bleeding from his varices. For example, a patient with severe liver disease does not stand operation very well. If the outlook for that patient is in terms of weeks or months based upon his liver disease alone, one has little right to intervene surgically in an attempt to save the patient from bleeding to death when the bleeding in itself would not be any more dangerous than the underlying disease. If on the other hand one is dealing with a patient, such as we believe we have today, whose outlook so far as his liver disease is concerned is excellent, and in whom the real danger lies in his bleeding to death years before he might be expected to expire from the disease process itself, then one must seriously consider attempting to save that patient's life from the threatened hemorrhage. That was the problem which the group who first considered our patient today had to settle. It was our feeling then that he should be operated upon at an interval when he was best prepared for surgical attack. The fact that our hands were forced at a time when he was not in optimum surgical condition is one of the pitfalls in handling patients with this disorder and only serves to point up the severity of the problem and our inadequacies in meeting the total over-all problem.

DR. ROBERT I. CARLSON: There are two facets of the surgical management of esophageal varices due to portal hypertension upon which I would like to comment. One is the choice of the operative procedure to overcome the esophageal varices and the other is a few specific comments upon the transesophageal ligation of varicose veins of the esophagus.

The last word has not been spoken as far as the ideal surgical management of esopha-

geal varices is concerned. As evidence of this there are three or four different surgical approaches that have been advised in the past and are still being practiced by many surgeons of good standing. I feel it is fair to estimate that the most popular procedure to date is some type of a vein-to-vein anastomosis between the radicals of the portal system and the radicals of the systemic venous system. However, some workers have expressed dissatisfaction with this operation because of the difficulty in maintaining the patency of the anastomosis, for thrombosis at the site of the anastomosis has occurred in the immediate or in the late postoperative period and obviously the patient does not benefit when this unfortunate result occurs. Other surgeons have been interested in resection of the gastro-esophageal region which is the site of the varices and feel that by actually excising this portion of the gastro-intestinal tract the tendency for serious bleeding will be overcome. The difficulty with this particular procedure is that veins have a tendency to recur and more important is the sacrifice of the cardio-esophageal junction which allows the regurgitation of acid gastric juice up into the esophagus. In the absence of varices this regurgitation esophagitis may give rise to ulceration of the distal esophagus and hemorrhage. We have not seen the condition in a patient with varices but I am sure that hemorrhage would be a constant threat. In 1950 Dr. Rienhof in Baltimore and Dr. Berman in Indianapolis independently suggested ligation of the hepatic artery in the treatment of portal hypertension. After an initial wave of enthusiasm for this procedure difficulties were encountered on individual patients who proceeded to go into hepatic failure after the procedure. Their untimely deaths has dealt a blow to the early enthusiasm for this type of operative procedure. Some people are still advocating it although they are definitely in the minority. Finally, the operation which has probably been practiced longer than any of the other procedures already described is splenectomy. As Dr. Peskoe has pointed out, about 40 per cent of the venous return to the liver is from the spleen and the splenic vein and by removing the spleen it

is felt that the load on the portal system will thereby be alleviated by 40 per cent. The difficulty, of course, is that following this procedure the splenic vein is no longer available for the performance of a spleno-renal anastomosis and if the portal vein cannot be used as a portocaval shunt at a later date then the patient is not in a very precarious position where no shunt procedure of any value is available. Combinations of the various operations that I have mentioned have been advocated, such as, stripping of the veins of the cardio-esophageal region without resection plus splenectomy. By and large, however, I feel that the operation of choice in most instances today is an anastomosis between the portal vein and vena cava.

In regard to the operation of the trans-esophageal ligation of the varicose vein of the esophagus, this operation was first done in this country, I believe, in 1950 by Dr. Crile in Cleveland and about the same time by Dr. Linton in Boston. Each of these authors has given credit, however, to a Dutch surgeon who did the operation in 1949. The procedure as advocated by Drs. Linton and Crile is essentially the same, namely, a trans-thoracic approach to the thoracic esophagus, a longitudinal incision in the esophagus carried down through the cardio-esophageal junction and into the cardiac portion of the stomach, with visualization of the dilated submucosal vein. In most instances a bleeding point can be demonstrated. The bleeding is then controlled by an over-and-over continuous catgut suture applied trans-mucosally in a fashion similar to which some people perform a hemorrhoidectomy. The difficulty with this procedure, again as I see it, is based upon my fundamental dread of the development of a regurgitation esophagitis if anything untoward happens to the cardio-esophageal junction. Although Dr. Crile and Dr. Linton make an incision which passes right through the cardio-esophageal junction, I personally am afraid to do this. As was mentioned by Dr. Kirkman in the case presentation, although esophageal varices were present these did not appear, at least at the time of surgery, to be the source of his bleeding. It was felt that most of the bleed-



ing came from dilated veins in the cardiac end of the stomach. In the operation carried out on this patient, two separate incisions were made, one in the esophagus and one in the cardiac end of the stomach, sparing the cardio-esophageal junction. The trans-diaphragmatic approach to the cardiac end of the stomach is not an easy procedure. However, our efforts were capped with success in that when we completed the procedure there was no further bleeding from either the esophagus or the cardiac end of the stomach.

DR. ALSOBROOK: This afternoon we have discussed a case of portal hypertension which represents a rather complex disease, the mortality of which is high. The selection of cases for surgical therapy should be emphasized, and in summary the following criteria should be satisfied.

1. In cirrhosis there should be minimal or absent ascites.

2. Icterus should be minimal or absent.

3. Reasonable hepatic reserve should exist as indicated by appropriate liver function tests or by objective response to intensive therapy in those patients with active liver disease. This can be broadened to include patients with ascites who can be treated rather vigorously with ion exchange resins and low sodium diet and who reabsorb their ascites.

In the cases of extrahepatic block, all are amenable to surgical therapy as the liver structure is essentially normal. It should be borne in mind that surgery in the treatment of portal hypertension only prevents death from hemorrhage. There is little evidence that liver function is improved to any great extent by lowering of the portal vein pressure.

## CLINICOPATHOLOGIC CONFERENCE

### Vanderbilt University Hospital\* Typhoid Fever

A 36 year old white farm laborer's wife was admitted to Vanderbilt University Hospital on July 17, 1949. The admission was for "nervous disease." Information was obtained from the husband, who, it was remarked, knew little and had observed less.

*Present Illness.* It appears that the husband had thought his wife to be in good health until 8 days before admission when she had suddenly had a chill. On the following day she developed a transitory headache. Vomiting and diarrhea came on after two laxative pills were taken. Except for diarrhea she seemed to do fairly well until 3 days before admission, though it was thought she might have had some fever and there was a complaint of weakness. Forty-eight hours before admission she was said to be talking "funny."

At 1:15 a.m., on July 16, she was admitted to a hospital in her home town, some 30 hours before admission here. The doctor's letter describes her at that time as "disoriented, semi-conscious, showing moderate dyspnea, exophthalmos, bodily rigidity and lack of coordination." He recorded T. 101-102.4, P. 112, R. 40. He found a WBC of 6,700, RBC of 3.46 million, Hgb. of 13 Gm., sed. rate of 20. A catheterized urine showed alb. 2+, blood 1+ and occ. pus cells. A retention catheter was introduced. Treatment consisted of 3 infusions of 1,000 cc. dextrose, thiamin, nicotinamide, penicillin 580,000 units, streptomycin 3 doses, sulfadiazine sodium gr. v sub-cutaneously and Hykinone.

It was the husband's impression that his wife's condition had not changed much, except that about 24 hours before admission she began to talk only in a whisper and that on the day of admission she talked not at all.

The husband gave no history of the use of drugs or exposure to other toxic substances, nor recent trauma. (She had "bumped" her head years ago.)

*P.H. and F.H.* Little was found out here. She apparently had had no cardio-respiratory, gastro-intestinal, genito-urinary or neurologic disease. No history of syphilis was obtained.

*Physical Exam.* T. 101.4, P. 120, R. 38, B.P. 120/80. Patient was a moderately well developed and nourished woman lying flat in bed, obviously acutely ill. She was unable to speak, seemed to have difficulty in swallowing saliva and showed marked tachypnea and slight generalized tremulousness. The skin was warm, slightly flushed. Several bruised spots were noted on the shoulders and ecchymoses at the sites of I.V. therapy, but

no petechiae were found. The mucous membranes and nail-beds seemed slightly pale.

The head was not tender and showed no evidence of injury. The left ear drum was slightly injected. There was injection of the left eye and a superficial abrasion of the cornea was seen. The pupils were equal and reacted normally. An observer described her as "wide-eyed." All agreed that the optic fundi, including the discs, were normal except for a patch of old chorioretinitis on the right. Dried blood was present in both nares, on the lips, tongue and teeth. There was a question whether the tongue had been bitten; the pharynx could not be visualized because of resistance.

The neck was stiff. The trachea was in midline. No goiter was felt, but the anterior neck was described as full. There was no remarkable lymphadenopathy. Breasts were negative. Chest expansion was symmetrical; the diaphragms descended equally. Lungs were resonant, with harsh breath sounds and sticky rales at bases and in axillae. The precordium was somewhat overactive. The heart was not enlarged; the sounds were loud; rhythm was regular; tachycardia was present. A soft, blowing systolic murmur was heard at the base. Pulses were equal and full; the peripheral arteries were not hardened.

The abdomen was described as slightly obese. There was a slight amount of clotted blood in the umbilicus. A healed lower mid-line scar was present. No masses nor organs could be felt or percussed. There was no muscle spasm. There was possibly some R.U.Q. tenderness. Rectal and pelvic examinations were not done.

*Neurologic Findings* (composite by several observers). On admission she responded some to instructions. There were constant shifting movements of the eyes and tongue. She was noted to wrinkle the forehead but seemed unable to close the eyes, move the lower part of the face or protrude the tongue. The left cornea seemed anesthetic with possibly hypalgesia of the right. She was restless, had generalized tremulousness of all extremities. All extremities were weak but all observers agreed those on the right were weaker and moved less than those of the left. All tendon reflexes were present but weak. (One observer thought them to be less on the right.)

#### Laboratory Data.

July 17—Cath. Urine: Yellow, clear; sp. gr. QNS; Ph. 5; alb. 1+; sugar 0; 12-15 RBC/hpf; 0-1 WBC; no casts seen.

July 17. Blood: WBC 6,800; Hgb. 12 Gm.; PCV 32 Differential: J 0; Stabs 6= Segs 85; Eos. 0; Baso 0; Lymphs 7; Mono 0; RBC's and platelets appeared normal on smear. Kahn negative.

July 17—NPN 176 mg.; sugar 106 mg.; CO<sub>2</sub> 31.

July 18—NPN 156 mg.; CO<sub>2</sub> 39.3; Alb. 2.87 Gm.; Glob. 2.24 Gm.; Ca. 6.3 mg.; P. 2.0 mg. Cl. 102.3 mg.

July 19—NPN 148 mg.; CO<sub>2</sub> 46.7.

July 20—NPN 170 mg.; CO<sub>2</sub> 58.3; Alb. 3.03 Gm.; Glob. 2.20 Gm.; Ca. 8.4 mg.; P. 8.5 mg.; Cl. 193.5 mg.

\*From the Departments of Medicine and Pathology, Vanderbilt University School of Medicine, Nashville, Tenn.

July 21—NPN 196 mg.; CO<sub>2</sub> 52.3.

Prothrombin: July 18 56%; on the 20th 56%.

Lumbar puncture was done twice with opening pressures of 130 mm. and with free dynamics. On July 17, clear; cells 7; pandy neg.; protein 19 mg.; sugar 64 mg.; no growth. On July 19, clear; cells 2; protein 20 mg.; chlorides 136.8 mg.; Wass. neg.; no growth.

Bladder Culture (July 18): light growth *B. coli*.

Urine Culture (July 20): not reported.

Blood Culture (July 20): not reported. (Note in chart says gram neg. organism.)

Throat Culture: predominantly pneumococcus, no diphtheria.

Agglutination (July 19: typhoid O—neg.; typhoid H—1:640; proteus OX—19 and neg.; proteus OX—2 neg.

July 17. X-ray of Chest. Film could not be obtained P.A. due to the patient's condition. There is marked thickening of both hilar shadows with some bead-like areas of increased density extending into both lung bases. These changes are compatible with the clinical impression of those associated with uremia.

*Clinical Course.* During the 4 days in the hospital before death no improvement occurred. There was apparently progressive diminution in the generalized twitching and the patient seemed more relaxed. The rectal temperatures ranged from 103-104° on the first and second days after admission, on the third day from 104-106° and on the day of death stood at 106°. Tachycardia was proportionate ranging from 120-130 per min.; later it was 140-160. Respirations were in general between 40 and 50 per min.

Penicillin was given "prophylactically." Streptomycin 1 Gm. was given every 8 hours after the typhoid 1+ agglutination was returned to 1:640. She received 4,000 cc. of dextrose in water or saline and sodium-bicarbonate and calcium gluconate. A transfusion of 500 cc. of blood was given.

Death was respiratory; the patient was placed in a respirator without effect. Date of death July 21, 1949, the fourth day after admission.

DR. R. H. KAMPMEIER: This then is a case of a 36 year old woman, whose illness of sudden onset ran its course to death in presumably days. The onset was allegedly with a chill. (One might pause to comment that a chill as the word is used by a layman does not always imply the rigor before fever. Sometimes mild seizures, tonic and clonic muscular contractions, as well as hysterical manifestations, may be thought to represent rigors or chills.) In addition she had headache; vomiting and diarrhea appeared, the latter persisting for a matter of some days. Fever apparently was present from the beginning, and disorientation began 48 hours before admission. Some 4

or 5 days after the onset of her symptoms her physician described her as being disoriented, semiconscious, noted exophthalmus bodily rigidity, incoordination, tachypnea, dyspnea, tachycardia and fever. She also demonstrated albuminuria.

Upon admission to this hospital the situation was practically the same except that the patient was unable to speak, had difficulty in swallowing, showed general tremulousness, a stiff neck, a corneal abrasion, a warm flushed skin showing ecchymosis, blood in the nares and mouth and in the umbilicus.

Several observers who saw this patient during the days of her illness in the hospital thought primarily of a neurologic disorder as the presenting problem, and well they might. In addition to the symptoms mentioned before, there seemed to be a paralysis or paresis of certain of the cranial nerves, apparent weakness and corneal anesthesia.

If one attempts to classify this patient under a *neurologic diagnosis*, one may begin first with the inflammatory processes, since we do have the story of a chill, fever and stiff neck. Meningitis would quickly come to mind in view of these symptoms; there are several types which might give rise to the clinical picture. With evidence of former chorioretinitis, two diseases come to mind which, along with others, not infrequently produce chorioretinitis. In these two diseases, tuberculosis and syphilis, meningitis might subsequently develop.

The history and the physical findings naturally led to an attempt to demonstrate abnormalities in the spinal fluid. However, the pressure was normal, dynamics were free. In spinal fluid examinations, at 48 hour interval, there was no pleocytosis, the protein was not elevated, the sugar was not diminished and furthermore two cultures of the spinal fluid were subsequently reported as negative. It is difficult to think of any meningitis which would be unassociated with abnormalities in the spinal fluid. One might then move on to one of the encephalitides.

Attention might be attracted to rabies because of the difficulty in swallowing. Even though the apparent dysphagia, the rigidity of the neck, the overactivity and



tremulousness of the extremities might suggest rabies and, admitting the febrile course might be compatible with such disease, the spinal fluid findings would make rabies improbable since the cells and spinal fluid protein were normal. If one thought of tetanus, also because of fever and of apparent difficulty in swallowing, one is faced with an atypical course to death without any clonic or tonic convulsions. It must be admitted that some of the encephalitides are not associated with spinal fluid changes. For example, in the epidemic or the post-influenzal type, little if anything, may be found in the spinal fluid. The neurologic manifestations can only be thought to be on a basis of diffuse involvement, as in encephalitis. The fever was really too high for the consideration of epidemic encephalitis. One must not forget the noninfectious encephalitides, those associated with metals such as arsenic and bismuth. This again seems unlikely since there was no history of any exposure to the drugs which might be associated with an encephalopathy. Such clinical conditions are commonly associated with an increase in protein and cells and commonly have a low-grade fever as well. Tumors of course come to mind, also, in this case. One might consider cerebellar tumor, because of the apparent incoordination and tremulousness of the extremities; the corneal hypesthesia might be suggestive of cerebellar disease as well. The spinal fluid in such cases might be negative and not of diagnostic help. Another tumor which enters one's mind is a tumor in the region of the third ventricle or hypothalamus. Here lie the regulatory centers for temperature, cardiac and respiratory rates. All three of these bodily functions were altered as you have noted from the protocol.

I have considered several different neurologic entities very superficially in order to bring them up for discussion. I believe it is apparent that I do not feel that the staff was dealing primarily with neurologic disease. It seems to me that such disease is not to be brought into the picture, since there are certain items difficult of explanation on this basis. Though the tachycardia and tachypnea might be indicative of abnormalities of the regulatory center and

therefore of a tumor in the third ventricle area or hypothalamus, one is faced with findings most difficult to explain on the basis of neurologic disease. These are the prothrombin deficiency and the biochemical findings, especially the elevated NPN and phosphorus. These are difficult to tie in with a diagnosis of meningitis or encephalitis of whatever etiology.

If one approaches the diagnostic problem from the standpoint of the biochemical disturbances, one encounters difficulty in explaining them satisfactorily. We find azotemia, hypocalcemia and a developing hyperphosphatemia. Does the clinical picture then present *uremia*? With renal failure, nitrogen retention and progression into uremia, the accompanying acidosis leads to hypocalcemia, and, with the mounting acidosis, hyperphosphatemia. Clinically one might well say that these are the circumstances in this patient. The headache at its onset, the nausea, the diarrhea, may all fit into the clinical picture of uremia. Hyperpnea also may occur and the bleeding tendency as well. The muscular irritability might suggest tetany as the result of the hypocalcemia. Most unfortunately we had only one urine sample for examination and know only that there was a slight albuminuria, some scattered red blood cells and no description of casts. The specific gravity, a valuable piece of information concerning renal function, is missing. Urinary output on one day was only 1,000 cc. as compared to intake of 4,000 cc. We have the film of the chest here which was interpreted, as you see, in the protocol as showing the thickening in the hilar areas of the type noted in uremia. I should like to have Dr. Francis comment upon this film, if he will.

DR. HERBERT C. FRANCIS: The films were made with the patient in bed and with mobile equipment. They show slight motion from patient's inability to control respiration. The short distance exaggerates lung markings but there is no frank evidence of pulmonary congestion or of pulmonary changes of the azotemic type. There are many small, circumscribed nodular soft tissue densities a few millimeters in diameter which may represent old fibrotic changes or possibly small metastatic nod-

ules. The detail and quality of the film does not allow a definite opinion.

DR. KAMPMEIER: If this was uremia, what type of renal disease might one have been dealing with? I cannot make up my mind concerning this point. This is not the picture of acute glomerular nephritis without at least some hypertension, without edema, without more albuminuria and blood and with a temperature level which reached 106 terminally. If one thinks of chronic renal diseases which end in uremia, such as chronic glomerular disease, polycystic disease or chronic pyelonephritis, the absence of hypertension is difficult to explain away. A single urinary specimen revealed no casts, which one would anticipate with chronic glomerular disease. A urine culture was negative.

There were biochemical discrepancies which are difficult of explanation if this was uremia. Upon admission with an NPN of 176 mg. per cent and a  $\text{CO}_2$  of only 31 the calcium was found at a level of 6.3 mg. per cent and the phosphorus 2 mg. per cent. If this was uremia, I would expect in the absence of any great degree of acidosis, a higher level of calcium in view of the low phosphorus. One or the other of these two determinations appears to me to be incorrect. The subsequent findings cannot be truly evaluated because of therapy. The  $\text{CO}_2$  determinations in the thirties to fifties may be accounted for by the administration of a total of 40 Gm. of sodium bicarbonate intravenously over these days (calcium gluconate was given upon one occasion). The accumulation of phosphorus to the extent of 6.5 mg. per cent in 48 hours in the presence of controlled acidosis in uremia would seem remarkable to me.

Some features in the clinical course are most difficult to fit in with the usual picture of uremia. Granted that the headache, nausea and diarrhea, disorientation and generalized muscular irritability are compatible with the diagnosis of uremia, the acute onset, the mounting fever to high levels, tachycardia and tachypnea do not fit in with this course. And one other curious clinical feature was that the muscular irritability as manifested by tremulousness and rigidity was an important point upon admission,

whereas it gradually decreased before death. In uremia the reverse would be the case. One might speculate that this patient had had chronic renal disease, had renal rickets with long-standing acidosis to account for nitrogen retention and hypocalcemia, then developed an acute intercurrent infection which accounted for some of the manifestations of a febrile disease. But it is impossible for me to accept this in the presence of a blood pressure of 120/80 and a negative urinary sediment.

The patient became ill in July. This is the beginning of the typhoid season and one is attracted to the laboratory findings of agglutination with the H-antigen in a 1:640 titer. We are dealing with a febrile disease of acute onset with rising temperature, headache, diarrhea, mental confusion and muscular twitching. This is a very acceptable picture for *typhoid fever*, though not the typical. In Osler's 1,500 cases he described chills at the onset in 334, diarrhea in 516, headache in 1,117 and epistaxis in 323. Typically fever rises steadily from its onset, as in this patient, and the disorientation or delirium appear and progress with the higher levels of fever. Though this patient does not show the more typical onset and course, the story is entirely compatible with typhoid fever since it may well be altered from the characteristic pattern in individual cases and probably particularly so as related to the dosage of organisms ingested. The more massive the dose of the infectious agent, the more abrupt may be the onset of the disease. We have seen in a personal friend, infected in the laboratory by a massive dose of typhoid bacilli, a very sudden onset of infection with chill, diarrhea and a temperature of 106 to 107 within a matter of a couple of days. In an epidemic of 32 cases, during my experience in general practice, an infection resulted from a heavy milk-borne contamination. Almost all of the cases became ill within 18 to 24 hours of each other and with a primary manifestation of diarrhea.

In some instances, as has been long known, the onset of typhoid fever may be that of nervous manifestations with severe headache, stiff neck an early manifestation of delirium, muscular twitching and even



convulsive seizures. Blood in the nose and mouth might have been the manifestation of epistaxis, common in this disease. Corneal ulceration might well have been a manifestation of what we used to see not infrequently, infections of the mucus membrane, because of dehydration. Febrile albuminuria is expected in two-thirds of the cases of typhoid fever and an acute nephritis has been described.

However, though the clinical picture might well be accepted on the basis of typhoid fever, there are some discrepancies which are difficult to account for. Is the 1:640 agglutination titer with H-antigen, in the presence of a negative agglutination with the O-antigen, specific. If this patient's illness began only 8 days before her death, such a titer by the sixth day is improbable, especially with a negative result in the O-antigen. One would suspect therefore the agglutination with H-antigen as being not specific, but a reaction due to other disease. The H-antigen may show agglutination as an anamnestic reaction, in persons who have had previous typhoid fever or been immunized, in the presence of subsequent disease especially one having a febrile course. Next it is difficult to explain the azotemia and the accompanying hypocalcemia and hyperphosphatemia. In passing, it might be pointed that the tachypnea would be most unusual in typhoid fever, and the pulse rate does not show the relative bradycardia when compared to the febrile level. Unfortunately, from our protocol, we learn that the urine culture and blood culture had not been reported, though a note indicates that a Gram negative organism was found.

Again I want to emphasize that it was summertime, and the season and certain findings remind me that this patient may have died of so-called medical *thyroid storm* or *crisis*. I emphasized summertime because Dr. James Rives, surgeon, and I years ago, in New Orleans attempted to correlate the non-postoperative type of thyroid storm with the heat and humidity of the New Orleans summer, which would put a tax upon an already overburdened heat-regulating mechanism. All deaths of this disease in Charity Hospital occurred in the summer-

time. We went to the trouble of correlating the humidity and temperature records with the periods of illness. In presenting this series of cases before a meeting of the American College of Physicians in New Orleans, I made this statement in the brief paper, "In patients not known to be thyrotoxic, clinical pictures may present themselves which may suggest typhoid fever, and uremic or diabetic coma." Since we already have talked of uremia and typhoid fever it seems that this statement urges us to discuss thyroid storm in this woman for certain reasons which I will bring out.

First, let me say that thyroid storm or crisis is thought of all too often only as related to the postoperative state. In 1934 Bayley reported 123 deaths in 8 years at the University of Michigan Hospital, 72 or 60 per cent of which were postoperative and 51 or 40 per cent were without operation. (Since I answered all requests for medical consultations on one week-day during four years of this eight year period I saw a number of these patients.) I have always felt one should think of thyroid storm only as a progression of thyrotoxicosis in its natural course in some instances, and in others due to contributing factors which put the organism under stress. We have seen it develop after such apparently minor procedures as bronchoscopy, dental extractions and more or less minor surgical procedures as hemorrhoidectomy and the like. Also at times we saw it as an "iodine escape" phenomenon. So too, I have seen the stress of scarlet fever, diphtheria and follicular tonsillitis in the thyrotoxic as the trigger for the accentuation of thyrotoxicosis to the point of crisis. I have already commented upon the possible relationship to heat and humidity. At any rate, when this breakdown of the heat regulatory mechanism occurs, death takes place in a high percentage of cases, according to Means in some 66 per cent.

We must admit that this patient's clinical picture fits well into our thoughts of thyroid storm. The restlessness, the disorientation, the vomiting, the diarrhea, are typical manifestations. I wonder if those attending this patient did not think of thyroid crisis, since we note that the family physician

commented in his letter that she had "exophthalmus" and we also note that one of the attending men dictated in his note that she was "wide-eyed." She had a corneal abrasion which occurs at times in the thyrotoxic because with decreased winking and exophthalmos the cornea becomes dried and ulceration may take place. We note too the generalized tremulousness, the flushed skin, and the weakness of the reflexes. All of these are suggestive of thyroid storm. Then we note that she had a rising temperature; under observation, in the matter of only several days, her temperature rose from 104 to 106 degrees, evidence of the loss of her heat regulation. With this the tachycardia rose from 140 to 160, and the respirations from 40 to 50. One might say parenthetically that about 50 per cent of patients in thyroid crisis fibrillate and, if they do, it gives the "tip-off" to the true state of affairs.

And so one would say that the clinical course in this patient fits well the story of thyroid storm with death. To comment upon other items,—in the C.P.C.'s on current cases at Ann Arbor in patients with exophthalmic goiter, Warthin always made much of the subject of hepatitis in these people. Jaundice is not uncommon in thyroid storm, and he and his associate Weller wrote on the high incidence of hepatic disease in these persons. In this patient we have as evidence of liver disease only the low prothrombin time, which of course is also aggravated by the diarrhea and the poor food intake. The NPN was up. If the metabolic rate is high, if the protein intake is low, protein starvation being aggravated by diarrhea, one anticipates a negative nitrogen balance. Protein stores will become the main food source for a patient in thyroid crisis and account for an increased nitrogen elimination. The low serum proteins which this patient showed may be a reflection of this. In addition to the break-down of protein, dehydration was probable in this patient. The amount of sweating was not known, but sweating seems probable with a flushed skin, and this plus the water-loss via the pulmonary tract because of the marked tachypnea, suggests dehydration. Therefore one would not be surprised at

some degree of azotemia on a pre-renal basis alone. The mild acidosis which she had could well fit in with this picture, a starvation acidosis, rather than one of uremic acidosis.

We note that she had hypocalcemia, and this could result from several factors operating in thyrotoxicosis. She had a decreased intake of calcium because of her illness and decreased food intake, accentuated by loss through diarrhea. Her protein stores were used up, the serum proteins were low, calcium therefore was not laid down in the bony matrix. Vitamin C was lacking no doubt on a dietary basis, an important fact in this aspect; this accounts for the known osteoporosis which occurs in thyrotoxicosis. It has been shown that in severe thyrotoxicosis there is an increase in calcium output in urine and feces. Could not this account for the hypocalcemia? The low phosphorus shown in the first determination would fit in well with this explanation, going along with the calcium loss and inadequate uptake. A later rise in phosphorus is difficult to explain unless renal insufficiency has developed because of general tissue metabolic disturbance due to high fever and dehydration. I can explain the slight rise in calcium due to that administered by vein, but it is difficult to explain the discrepancy between the two phosphorus determinations. Under any circumstances one wonders whether error is present here.

Therefore I will conclude that this patient died of *thyrotoxicosis in thyroid storm or crisis*.

DR. JOHN SHAPIRO: The findings in this case are not classical but sufficiently clear to enable us to make a satisfactory diagnosis. Cultures obtained at autopsy were of considerable help as an organism identified as *Eberthella typhosa* was grown from the blood stream and from the contents of the ileum and gallbladder. The identification of the organism was based on fermentation reactions. It would have been worth while to test agglutination of the organism against known antityphoid serum but apparently this was not done. I think it worth while to emphasize the value of such reactions in the identification of a particular bacterium, especially when there



is a question as to the pathogenicity.

Generally the anatomical findings were quite in keeping with a diagnosis of typhoid fever. The liver, spleen and mesenteric lymph nodes were all enlarged to a considerable degree and presented on microscopic examination the focal areas of necrosis so characteristically associated with typhoid fever. Other infections, e.g., tularemia and brucellosis, may cause somewhat similar but not identical microscopic lesions. There was remarkably little change in the intestinal tract grossly, though the Peyer's patches and lymphoid patches of the lower ileum were prominent. Microscopically there was a marked proliferation of the large mononuclear cells in the lymphoid tissue of the ileum. These are the cells in which the organism may be found on occasion in great numbers. It has been postulated that actual multiplication of the typhoid bacillus may take place in these cells and migration of these phagocytes may serve to disseminate the organism throughout the body.<sup>1</sup>

In spite of the marked neurological symptoms we found little of note in the central nervous system. This is the usual circumstance in typhoid fever.

The kidneys proved to be very interesting especially in view of the uremia which was so prominent clinically and which must have been a major factor in the patient's death. Both kidneys were enlarged with swollen cortices. Microscopically there was interstitial infiltration of plasma cells and lymphocytes and edema, with no change demonstrable in the glomeruli or tubules. Thus we are dealing with the so-called acute interstitial nephritis which may occur in association with a variety of acute infections. It has been seen with typhoid fever but is more frequently encountered following streptococcal infections, diphtheria and sulfonamide administration. Let me emphasize that this is not an ordinary acute glomerulonephritis but that the reaction is interstitial with little alteration of the functional units. The cause for the nitrogen retention and oliguria in these cases is not

clear though the presumption is that the infiltration of cells and edema tend to increase intrarenal pressure with compression of vessels.

I am chagrined that we did not have an examination of the thyroid and other neck organs. After Dr. Kampmeier's presentation I feel that such an examination would have been necessary to rule out the possibility of thyroid crises but, all in all, the diagnosis of typhoid fever with a complicating interstitial nephritis seems to be well substantiated.

#### *Final Diagnoses*

1. Acute interstitial nephritis secondary to
2. Typhoid septicemia.

DR. KAMPMEIER: And so you see I was wrong again. I am glad that the complication of typhoid fever which Dr. Shapiro has presented to you is of the rarity which he implied. Because of peculiar and fortuitous circumstances I have had a respectable experience with this disease and have had the good fortune to see many of the complications. But this one I have never seen insofar as I can recollect. I would like to make a few comments in light of the diagnosis.

As I said in my discussion of typhoid fever, the onset and the rapid progression, the disorientation and the delirium, and the rising fever, are all compatible with the early stages of typhoid fever. The restlessness or jactitation is so commonly seen in these stages of typhoid fever. The disproportion between the heart rate and the febrile level, so common in typhoid fever, was not demonstrated in this patient. We were let down by the laboratory. The 1:640 agglutination with the H-antigen, I indicated cannot be accepted as diagnostic. It was too early for the diagnostic O-antigen agglutination, therefore we cannot blame the laboratory for this. However, we should have had from the blood culture, or urine culture, or stool culture at the time of her admission a positive culture for *E. typhosa*. The laboratory findings also show discrepancy insofar as the uremia is concerned. I grant that the absence of developing acidosis with uremia, of the grade to give us a phosphorus of 6 mg. per cent was prevented by the intravenous use of sodium bicarbonate, but

<sup>1</sup>J. W. Adams: Intracellular Bacilli in Intestinal and Mesenteric Lesions of Typhoid Fever, Am. J. Path. 15; 1939.



the discrepancy in phosphorus which puzzled me still stands open to question. It is extremely difficult for me to understand how a patient with renal azotemia of a NPN of 156 mg. per cent, a calcium of 6.3 mg. would have a phosphorus of 2.0 mg. in the first place, and especially, by contrast, 48 hours later present, with 170 mg. per cent of nitrogen, a calcium of 8.4 mg. but particularly a phosphorus of 8.5 mg. From a clinical standpoint this discrepancy, or possible error, isn't very important, because the diagnosis hinges on the clinical picture in any event, and obviously I missed it.

If one wished to be particularly stubborn one could add, since acute infections may induce thyroid storm, and since this woman was described as having fullness of the neck, exophthalmus and other features which I have pointed out, she might have

suffered a thyroid crisis in the course of typhoid fever. It was unfortunate that we had no histologic examination of the thyroid gland.

In any event this patient demonstrates the varied course which typhoid fever may take. Osler emphasized this time and again. My professor of medicine, one of Osler's proteges, used to quote Osler as saying, "If you know typhoid fever and syphilis, you know medicine." The implication was that typhoid fever could mimic almost any acute infectious disease, and that syphilis could simulate almost any acute and chronic disease of both inflammatory and non-inflammatory nature. Since you as students no longer have the opportunity to see typhoid fever nor syphilis, let alone to know them, I feel sorry for you. How are you going to "know medicine"!

## **Contact Your Legislators—in Person For Support on These Vital Measures**

### **TSMA'S LEGISLATIVE CALENDAR**

An adequate appropriation to finance the "Hospital Service for the Indigent Act." We are seeking \$1,600,000 for a two-year period.

A bill to simplify and clarify the procedure for obtaining consent to perform an autopsy.

An Act to permit publication of professional cards of physician-members and names of staff members in Clinic advertisements in the Journal of the Tennessee State Medical Association.

A measure to provide for State licensing of Physical Therapists. No new Board will be needed under this legislation.

An Act to Create a Board to License and Regulate Dispensing Opticians.  
(For details see yellow Public Service page in this issue.)

## President's Letter



DR. THOMPSON

1954 is gone, and 1955 is here for whatever we care to do with it. The season for payment of annual dues is here. The twenty-five dollars we pay the State Association and the twenty-five dollars we send to the AMA are due. Time is at hand to evaluate our annual investment.

First, let me make a statement. The *dues of the Tennessee State Medical Association are among the lowest* of any of the associations of these United States. Yet the T.S.M.A. is probably among the most active, if not the most active, of all the State associations. And we pride ourselves that it is definitely a progressive activity. We believe that the time is not too far in the future when, if we continue to go forward at our present pace, an increase in dues is inevitable.

Our Association had a budget of \$77,500.00 for 1954 and a proposed budget of approximately \$82,000.00 for the coming year. This includes the operation of the JOURNAL which, by the way, is one of the very few State journals which operates in the black. This is despite the fact that a portion of the dues is *not* allocated to journal expense. The budget is broken down to include \$24,300.00 for salaries for five full-time employees, \$2,520.00 for rent, \$3,000.00 for travel expense of the full-time employees per year. Telephone, postage, printing and supplies come to approximately \$6,000.00. Committee expenses amount to \$1,000.00. Delegates to the AMA require \$1,500.00. Miscellaneous, such as new office equipment, office machine service, clipping service, fidelity bonds, taxes, etc., require about \$3,000.00. Legal fees come to \$3,000.00, and last but not least our postgraduate program amounts to \$10,000.00 a year which together with the donations of Vanderbilt University and the University of Tennessee, with the funds from the Department of Health of the State of Tennessee and individual tuition comes to \$32,500.00 for this item each year.

For this expenditure we believe we have a tremendous program. In fact, we know of no comparable State association that receives as much for its dues dollar.

What about the money for the American Medical Association? Why should we send money to it? First, and we believe an excellent reason, we should belong to the AMA because by so doing we line up with those with whom, because of similar training, we have a feeling of kinship. Secondly, our membership in the AMA is taken so for granted that we do not realize what a coveted privilege it is. The annual dues to the AMA is so small when we consider all of the benefits that it seems ridiculous that we even question the payment.

The Association maintains a watch-dog office in Washington to protect the interest of the medical profession and above all the public which purchases medical service.

Do you realize you could not be certified as a Diplomate in the specialties if you were not a member of the AMA? You could not have certain insurance appointments if you did not hold membership in the AMA. Medical education would be in a rather chaotic condition without AMA standardization. The same applies to the hospitals of this country. Do you realize that without the AMA as a watch-dog, you would hesitate to prescribe the drugs you so glibly give at the present time? Continuous investigation is carried on with new drugs, foods, cosmetics, pesticides and physical medicines' mechanical devices. A continuous war is waged against illegal practitioners, peddlers of fake nostrums, faith healers and quack machines. In other words, the AMA is a tremendous army which has accepted and carried out the responsibility of leadership in safeguarding the public health, raising the standards of medicine, and making good medical care available to the people. Medical progress in this nation, as guided by the AMA, has given the United States the

(Continued on page 37)

# THE JOURNAL

OF THE  
TENNESSEE STATE MEDICAL ASSOCIATION

Published Monthly

Devoted to the Interests of the Medical Profession of  
Tennessee

Office of Publication, 321-325 Doctors Building, Nashville,  
Tenn.

Acceptance for mailing at special rate of postage provided  
for in Section 1103, Act of October 3, 1917,  
authorized July 15, 1932.

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JANUARY, 1955

## EDITORIAL

### SCLERODERMA

As a disease that is uncommon but one that is most interesting, scleroderma has remained a puzzle from the viewpoint of etiology. In more recent years, however, more and more students of the disease are willing to consider it along with other of the so-called "collagen diseases." It has been shown that the vascular lesions one may encounter in dermatomyositis and disseminated lupus may also be found in scleroderma. The endarteritis and other vascular changes accepted as characteristic of disseminated lupus have been repeatedly demonstrated in cases of scleroderma. Vascular lesions were described as far back as in 1898. It is well to keep this pathology in mind when thinking, as one should, of scleroderma as a systemic disease and not a disease of the skin only. The skin is merely the outward demonstration of what goes on in many tissues in the body.

Lienwand and associates\* have studied the disease in 150 cases. They found an in-

cidence of females to males of 2.7:1. Seventy per cent of cases developed between the ages of 20 and 50, though all ages provided examples of the disease. Heredity seems to play no part. Though death may occur early it commonly is postponed for years after onset.

The onset of the disease, as in dermatomyositis and disseminated lupus, is often thought to be that of rheumatoid arthritis. It is the thickening and stiffness of the skin which suggests the nature of the disease. Later there may be atrophy. Pigmentation of the skin is usual and later ulceration and Raynaud-like manifestations may occur. Contraction deformities develop.

The author's review the reported pathologic findings. It is from these that the physician's interest stems. Here lies the proof of the widespread disease which is scleroderma, and this knowledge provides the key to the doctor who will diagnose early and who will understand the complications when they occur.

The thickened alveolar membranes as well as the vascular lesions account for the impaired pulmonary function and the radiologic findings of varying degrees of fibrosis. However, breathlessness is more often of cardiac origin for lesions of the heart are not unusual, varying from the murmurs and arrhythmias compatible with the diagnosis of rheumatic heart disease to other odds and ends of electrocardiographic abnormalities. The areas of focal necrosis, the almost constant presence of fibrosis in the myocardium in all cases, and occasional valvular lesions, account for the cardiac abnormalities.

Renal lesions are almost universally present. The curious fact is, however, that renal function and urinalysis reveal no abnormalities until progressive renal failure appears to go rapidly to termination. A variety of vascular changes and glomerular lesions are always present. The terminal picture is characterized by proteinuria and microscopic urinary bleeding, azotemia, hypertension and retinopathy.

The rare involvement of the adrenal glands is of interest only because the developing picture of scleroderma may suggest Addison's disease at times, seemingly because of weakness, pigmentation and muscle atrophy.

\*Leinwand, I., Duryee, A. W., and Richter, M. N.: Scleroderma (Based on a Study of Over 150 Cases), Ann. Int. Med. 41:1003, 1954.



The involvement of the connective tissues and secondarily of the muscularis of the wall of the esophagus, small and large intestines, accounts for the progressive dysphagia and radiologic abnormalities which may occur, and the lack of motility in the intestinal tract manifesting itself in a sense of fullness and the radiographic evidence of dilated loops, and puddling of barium.

Scleroderma is still classified as a disease of unknown etiology by the authors of this review of 150 cases as well as by others.

In spite of this, which is actually true, it may help one's thinking if one keeps in mind the basic pathology. The arteritis which is present, and the renal lesions, are so reminiscent and inseparable from those of other diseases characterized by diffuse arteritis (dermatomyositis and disseminated lupus) that one must think of the same pathogenesis. Is not this most interesting disease also due to sensitization of the mesenchymal tissue to some antigen with an exquisitely chronic and low-grade type of reaction?

R. H. K.



#### WHAT IS THE FUTURE OF PREPAID HEALTH INSURANCE?

As a member of the Committee on Prepaid Insurance your Editor has of late thought a lot about the limitations of the prepayment insurance plans now in vogue. This thinking developed particularly as the result of requests made by certain segments of the membership of the Tennessee State Medical Association. At the Annual Session last April, the Committee on Prepaid Insurance heard requests by members representing the internists, radiologists, pathologists and anesthesiologists for an extension of the Tennessee Plan to provide for benefits for non-surgical illness.

Every member of the Committee immediately recognized the difficulties these requests implied. First, if benefits in the non-surgical field were mandatory to the Tennessee Plan the premium would rise to the point where insurance would be priced out of existence, and would meet a lot of sales resistance from employers who pay either all or a good share of the premiums in group coverage. Secondly, if benefits were made

a matter of choice to the subscriber, as a rider to the surgical plan, relatively few policies would be sold and the objectives of the non-surgical groups would be defeated. Subscribers think mainly in terms of surgical fees, because of their size, when showing an interest in prepaid insurance. Generally they do not think of the catastrophic effect of prolonged medical illness. (Admittedly this viewpoint is changing and could be hurried by education.) Representatives of the insurance carriers say that few subscribers will take insurance against anesthesiology or radiotherapy.

One aspect the doctor must keep in mind in medical prepaid insurance is the limit which must be put on fees. Any plan which goes beyond about three dollars per day for hospitalized patients only is so expensive in premiums as to preclude the sale of such insurance. This means that if a patient entered the hospital because of myocardial infarction and died on the third day, irrespective of the number of hours the doctor spent on the case, the total fee would be nine dollars. The premium must be high or the benefits must be very limited since prepayment insurance for medical benefits offers temptation to dishonesty on the part of both patient and doctor. Medical benefits payable only for the hospitalized patient offer the temptation to hospitalize patients for colds or other minor complaints, especially in the proprietary hospital if hospital benefits also are provided.

As one contemplates the problem of eventually rising premiums for hospitalization insurance and demands for broader surgical and medical coverage one sees only an impossible situation when measured in premiums. The costs of coverage will be so high that protection will be salable to neither the employer for group employee benefits nor to the individual.

Your editor sees only one answer,—a deductible insurance program also known as *major medical expense insurance*. This type of insurance offers protection against the costs of catastrophic illness. The trend toward this type of insurance is gaining ground. According to *Medical Economics*<sup>1</sup>

<sup>1</sup>Williams, C. A.: How They're Insuring Those Major Medical Expenses, *Medical Economics*, 32: 97 (Nov.) 1954.

about 1,500,000 persons now are insured under this type of plan which was made available only several years ago. The statement is made also that the number insured under such a program doubled within the past year. Our Committee on Prepaid Insurance was told just recently by representatives from the Health Insurance Council that some of the labor unions in large urban areas in the East have requested a change to the deductible type of insurance in recognition of the fact the surgical prepaid insurance leaves out coverage against catastrophic illness of a non-surgical nature.

It is said in the article referred to that some thirty commercial carriers are experimenting with *major medical expense insurance*. Examples are cited to show variations in the amounts *deductible*, (varying from \$200-\$500); *co-insurance* (0-25 per cent), the portion the insured pays above the deductible amount; and the *maximum benefits* which range from \$2,500-\$7,500.

To your Editor this is the only type of insurance which makes sense. It is compatible with the American philosophy of self-reliance of the past, but with a guarantee against a catastrophic break in the budget. It would do away with the ridiculous situation in which even the most minor of surgical intervention is paid for. It would eliminate much of dishonesty by some patients and some doctors in the misuse of hospitalization insurance, thus reducing the premiums in this phase of prepayment insurance. Lastly, if the first several hundreds of dollars of medical expense is deductible, the door might be opened to pay for costly procedures on an office or ambulant basis, as for expensive X-ray and laboratory studies.

It may be predicted that, short of some form of compulsory health insurance, *major medical expense insurance* will make rapid advances within the next decade.

R. H. K.

## DEATHS

**Dr. Thomas T. McNeer**, 66, Kingsport, died November 18th at his home. He had been in ill health for the past few years.

**Dr. George Richard West, Sr.**, 96 Chattanooga, died November 28th at a hospital in Sarasota, Florida.

**Dr. Oswald S. McCown, Jr.**, 46, Germantown, Memphis, died November 14th. He had had a heart condition for some time.

## PROGRAMS AND NEWS OF MEDICAL SOCIETIES

### Knoxville Academy of Medicine

On December 14th, the Society held its Annual Meeting for election of officers. The program consisted of a report of Committees, installation of new officers for 1955 and the President's Address by Dr. George L. Inge.

Dr. Charles Sienknecht was installed as President for 1955 of the Knoxville Academy of Medicine. He succeeds Dr. George Inge. Dr. John D. Moore was named Vice-President and Dr. Ralph Monger re-elected Secretary-Treasurer. Dr. B. M. Overholt was named President-Elect for 1956.

### Memphis and Shelby County Medical Society

The November 2nd meeting consisted of the following scientific program: "The Cobalt 60 Teletherapy Unit" by Dr. David S. Carroll; "The Role of Physical Medicine in the Care of Poliomyelitis" by Dr. Louis Britt; "Intermittent Positive Pressure Breathing in Pulmonary Disease (with demonstration)" by Dr. Wilford H. Gragg, Jr. Mr. R. O. McEniry of the Standard Welders Supply Company demonstrated the use of the intermittent positive pressure breathing apparatus. Dr. Philip Lewis reported on the Community Chest Drive and Dr. Frank Roberts reported on the Tennessee Medical Foundation.

### Nashville Academy of Medicine Davidson County Medical Society

The Society held a dinner meeting in the Baptist Hospital on December 14th. The program consisted of a memorial service conducted by Dr. Henry Douglass for members who have died since April, 1953. The election results for the Academy's officers for the year 1955 were announced. The scientific program consisted of the following:



"Recent Advances in Obstetrics and Gynecology" by Dr. Frank E. Whitacre.

### Consolidated Medical Assembly

The program on December 7th consisted of a paper by Dr. W. Eppes on "Epidemic Hemorrhagic Fever" and "Disturbances in the Metabolism of Magnesium and Other Electrolytes" by Dr. Fred Friedman.

### Chattanooga-Hamilton County Medical Society

The Society's meeting on December 2 consisted of a panel discussion on "Endocrinology in General Practice." Dr. Charles R. Thomas was the moderator; other participants were Drs. Charles L. Suggs, Jr., Wesley H. Stoneburner, Harold B. Henning and Eleanor Stafford. On December 9th, the Society held its meeting for election of officers.

## NATIONAL NEWS

### Know Your Government

To operate the federal government medical, health, and related activities during the fiscal year 1954-1955, approximately 25 times as much money is required or approximately \$2,141,681,661. This represents one-sixth of the total United States health bill (12 billion dollars) as estimated by the Department of Commerce.

Some 25 federal agencies and departments are involved in this federal government medical program. The Panama Canal Zone with a "fee for service based on the individual's income bracket," represents one type of program, while the State Department's interest in the World Health Organization's health program in some 69 foreign countries is still another type.

The several thousand physicians involved in this federal government medical program include a limited number of "drafted physicians" in the Armed Forces, as well as many volunteers and career men in each of the 25 federal agencies and departments.

Size and cost are criteria for measurement in many instances but a federal government medical service needs to be evaluated as to "policy and ideology"—only well informed citizens can make such evaluation in a democratic form of government.

### Expanding Group Insurance

A three-fold expansion of group insurance protection for American families has taken place

since the end of World War II. Almost 34 million persons are now covered primarily for benefits for hospital and surgical care. Major medical expense coverage, the newest type of group insurance, now protects some 1.1 million individuals under 700 master contracts. It has had the most rapid rate of growth of all group insurance plans.

On a nationwide basis, health insurance plans have enrolled about 60% of the population, providing some form of protection against future hospital expenses for some 100 million Americans. Over 75 million have insurance against surgical bills, and nearly 40 million have coverage for doctors' calls.—Research Council for Economic Security August 1954.

### FTC Files Complaints Against Health Insurance Groups

The Federal Trade Commission on October 19 filed formal charges accusing 17 insurance companies of false and misleading advertising of health and accident plans through misrepresentation of their policies. Immediately the Joint Committee on Health Insurance, representing the industry, issued a statement emphasizing that the complaints were not a definite finding or ruling. The statement also said that the government's action should not be interpreted as evidence "that the relatively few companies involved are averse to changing their advertising to remove FTC objections."

In the event the government's charges are sustained by the full committee following hearings, the FTC will issue cease-and-desist orders, requiring the companies to alter their advertising to comply with the orders. FTC estimates that the 17 companies account for about a third of the individual accident and health policies in existence in the United States.

Some of the misrepresentations alleged by FTC include: (1) **Extent of coverage**—Many policies will not pay at all for losses due to such things as nervous disorders, or pregnancy; nor for hernia and heart disease unless originating six months after policy date, nor for sickness traceable to preexisting conditions. (2) **Maximum dollar limits**—Many policies provide full payment only for one or two comparatively rare operations; maximum average payable is one-fourth of the specified amount or even less. (3) **Starting time of coverage**—Certain companies represent coverage at effective policy date, although coverage begins after a specified period. (4) **Health status of applicant**—Certain companies state no medical exams are required to obtain policies when actually policies don't cover preexisting conditions.

FTC listed the companies and locations for preliminary hearings as follows: American Hospital and Life, San Antonio; American Life and Accident, St. Louis; Automobile Owners Safety, Kansas City, Mo.; Bankers Life and Casualty, Chicago; Commercial Travelers, Salt Lake City; Commercial Travelers Mutual Accident, Utica; Guarantee



Reserve Life, Chicago; Illinois Commercial Men's Association, Chicago; LaSalle Casualty Co., Chicago; Life Insurance Co. of America and its officers, Wilmington, Del.; Mutual Benefit Health and Accident Association (Mutual of Omaha), Omaha; Prudence Life, Chicago; Reserve Life, Dallas; Southern National, Little Rock, Ark.; Travelers Health Association, Omaha; and United Insurance, Chicago.—From A.M.A. Washington Letter, October 22.

## MEDICAL NEWS IN TENNESSEE

### Tennessee Resolution Cited

At the recent meeting of the American Medical Association in Miami, Florida, Dr. William H. Halley of Denver, Colo., arose to offer a Resolution at the close of the session. The Resolution offered by him referred to one presented by Dr. Zina Pitcher of Michigan at the Tenth Anniversary meeting of the American Medical Association held in Nashville in May, 1857. The Resolution follows:

"Resolved: That the members of this Association, as recipients of the cordial, generous, and elegant hospitalities extended to them by the profession and the citizens of Nashville, in placing on record an expression of thanks for the social amenities they have enjoyed during its tenth annual session, wish also to leave behind them the assurance, that the recollection of their short sojourn in Tennessee will be cherished as dearly as the remembrance of the far-off sound of water by the exhausted and wayworn traveller."

Dr. Halley repeated the Resolution and commented upon it in his remarks and expression of appreciation to Miami for being host to the A.M.A. Clinical Session.

### Institute on Mental Deficiency

This first extensive meeting in the South, sponsored by the State of Tennessee, brought to Nashville on November 22nd, leaders in medicine, psychology and education, to exchange the newest information available in treatment of the mentally handicapped.

### Tennessee's Medical Schools

Vanderbilt University, Meharry and the University of Tennessee yearly would receive more than \$100,000 each if a national drive for an annual \$10,000,000 to aid such schools is successful.

About 85 Nashville businessmen met on December 8th to discuss this matter. The meeting was sponsored by the Nashville Committee of American Industry for the National Fund for Medical Education. Principal talks were made by Mr. J. O. Waymire, treasurer of the Eli Lilly & Co., and Dr. E. Hugh Luckey, Dean of Cornell University Medical College.

Emphasis was given to the need for outside financial assistance to the hard-pressed medical schools of the nation, and their importance to sustained effectiveness of business and industry, as well as to the cause of private enterprise in keeping the Federal Government out of the medical education field.

The \$10,000,000 objective is set by the National Fund, through which more than 1,000 corporations have already given \$3,837,000 for the medical schools. It was pointed out that the National Fund has already allocated to Tennessee's three medical schools thus far a total of \$261,121.

### Wider Health Program

The Tennessee Department of Public Health, which is operating in the years 1953-55 on a budget of \$6,172,100 a year, wants at least \$2,650,000 more per year in 1955-57.

The additional money is requested for three main purposes: (1) To provide hospitalization, each year, for indigent Tennessee citizens who might otherwise fail to receive the medical care that would restore them to productive places in Tennessee Life. (2) To enlarge the battle against tuberculosis, which is already by far the most costly single program of the Public Health Department. (3) To offer a service never before provided for Tennessee children: "A program designed to reduce the crippling effects caused by rheumatic fever and congenital heart disease."

### Academy of General Practice

The Tennessee Academy of General Practice put on a Symposium on Therapy in General Practice in Memphis on January 12. Lederle Laboratories acted as co-sponsor with the University of Tennessee.

### Mid-South Postgraduate Medical Assembly

The sixty-sixth annual meeting will take place on February 8-11, at the Peabody Hotel in Memphis. Nineteen outstanding nationally known authorities in their special fields will give the program.

### University of Tennessee College of Medicine

Five postgraduate courses will be offered during the next four months. They are: Pediatrics, February 23-25; Abdominal Surgery, March 16-18; Radiology, March 31-April 2; Fractures and Dislocation, April 27-29; and Cardiovascular Diseases, May 18-20. In addition a five-day course in advanced pediatric care for general practitioners will be given March 7-11 with emphasis on practical clinical training. The enrollment for this course will be limited to four physicians the other course will be limited to 20 physicians.

★

The U. S. Public Health Service has awarded \$25,000 for a continuation of research on a serological test for the early diagnosis of cancer by Doctors D. H. Sprunt, W. M. Hale and F. C. Chang.

★

Dr. C. H. Eades, Jr., of the Department of Chemistry has been awarded a \$4,590 grant for continuation of his study of the amino acids excreted by cancer patients.

★

Doctors J. P. Quigley and Hortense Louckes, of the Division of Physiology, have been awarded a \$7,956 research grant by the U. S. Public Health Service for continuation of the study of the mechanism by which the stomach empties its contents into the intestine and the pressures developed under a variety of conditions within the lumen of different portions of the digestive tract.

### Tennessee Heart Association

At its first Annual Meeting in July, the Association elected its second slate of officers. Keeping Dr. B. F. Byrd as President, members chose Dr. R. B. Wood, of Knoxville, for the next THA President, kept Dr. P. H. Livingston, of Chattanooga, as Vice-President and elected Dr. John Davis

Hughes, Memphis, Secretary and R. E. Moody, Jr., Nashville, Treasurer. Additional members of the Executive Committee elected included W. F. Moehlman, Knoxville; E. C. Boldt, Memphis; Dr. John S. Powers, Jr., Kingsport; Dr. S. Fred Strain, Memphis; and Dr. Leland Johnston, Jackson.

Additional members of the Board of Directors include: Dr. C. W. Adams, Dr. B. F. Byrd, Jr., Edward Potter, Jr., and Wister Ligon, of Nashville; Dr. Daniel Brody, Memphis; T. A. Johnson, Manchester; Dr. Leland Johnston, Jackson; Dr. Parker D. Elrod, Centerville; Dr. Joseph Acker, and Laurie F. Pratt, of Knoxville; A. E. Archibald, R. C. Thatcher, and D. H. Griswold of Chattanooga. Griswold was re-elected to his position as Chairman of the Board.

Members of the Program Committee include: Dr. Wood, as Chairman; Dr. Livingston, Vice Chairman; Dr. Lamb B. Myhr, Jackson; Alfred S. Starr, Nashville; Dr. Acker; Dr. Brody; Mr. Thatcher; Dr. Hughes; and Dr. E. V. Newman, Nashville. Dr. Byrd is a member of all committees. Mr. Boldt was elected Chairman of the Finance Committee, its membership comprising Dr. Johnston, Mr. Moody, Mr. Moehlman and Mr. Archibald.

## PERSONAL NEWS

**Dr. Hubert Clemmer**, Milan, has been named President of the Consolidated Medical Assembly. He succeeds **Dr. J. L. Armstrong** of Somerville. **Dr. Roy Douglas**, Jackson; **Dr. J. T. Holmes**, McKenzie; **Dr. L. E. Trevathan**, Bruceton, were named Vice-Presidents. **Dr. Stanford M. Herron**, Jackson, was re-elected Secretary and Treasurer.

**Dr. D. D. Odell**, Nashville, has joined the Nelson & Robinson Clinic.

A plaque commemorating the services of **Dr. James VanBlaricum** has been awarded by the Cowan Rotary Club.

**Dr. O. B. Murray**, Chattanooga, has been named President-Elect of the Chattanooga-Hamilton County Medical Society for 1956.

**Dr. Charles H. Housholder** has been elected President of the Memphis Pediatric Society. Other officers elected for 1955 are: **Dr. Harry J. Jacobson**, Vice-President, and **Dr. William Price Stepp**, Secretary-Treasurer.

**Dr. Spires Whitaker** has been elected Chief of Staff at Pine Breeze Sanatorium in Chattanooga.



**Dr. Joseph W. Johnson, Jr.**, Chattanooga, was re-elected Secretary.

**Dr. Monroe F. Brown**, Assistant State Health Commissioner, has been installed as President of the Tennessee Public Health Association.

**Dr. William B. Farris** has been named Health Officer for Knox County.

**Dr. Howard W. Whitaker, Jr.**, Savannah, has been named to the Board of Directors of the American Cancer Society, Tennessee Division.

Eight Memphis surgeons recently participated in the Sixty-Sixth Annual Meeting of the Southern Surgical Association. They were: **Dr. Harwell Wilson**, **Dr. James D. Hardy**, **Dr. R. M. Pool**, **Dr. Charles Guice**, **Dr. R. L. Sanders**, **Dr. Duane Carr**, **Dr. George Livermore, Jr.**, and **Dr. Henning Mayfield**.

**Dr. John L. Armstrong**, Somerville, recently addressed the Fayette County High School Parent-Teachers Association.

**Dr. Robert A. Moore** has returned to his practice in Gallatin following graduate work in general surgery and special training in ear, nose and throat.

**Dr. Howell Sherrod**, Johnson City, was guest speaker at a recent meeting of the Roane County Medical Society.

**Dr. P. W. Turrentine**, a native of Memphis, is the new health director for Anderson County.

Participating in a recent Health Forum in Memphis were: **Dr. Battle Malone II**, **Dr. Leigh K. Haynes**, **Dr. Eugene J. Spiotta**, **Dr. Alvin J. Ingram** and **Dr. Roland H. Myers**.

**Dr. George K. Henshall**, Chattanooga, discussed "Cancer in Children" on a recent radio program sponsored by the Health Council.

**Dr. Dan S. Sanders, Jr.**, Nashville, was recently elected a fellow in the American Academy of Pediatrics.

**Dr. Sam L. Raines**, Memphis, has been elected Chairman of the urology section of the Southern Medical Association.

**Dr. James W. Davis**, Chattanooga, has received the annual Ochsner Foundation Award for excellence in medical writing.

Participating in a recent free public medical forum in Memphis were: **Dr. Carey G. Bringle**, **Dr. Sam H. Sanders**, **Dr. M. W. Lathram**, **Dr. J. E. Holmes**, **Dr. J. C. Mobley** and **Dr. Howard B. Haasen**.

**Dr. R. M. Neudecker**, Director of the Jackson-Madison County Health Department, has been named a member of the legislative committee of the Tennessee Public Health Officials Association. Others on the committee are: **Dr. L. M. Graves**, Memphis; **Dr. John Lentz**, Nashville; and **Dr. W. B. Farris**, Knoxville.

**Dr. Gilbert Varnell** has opened his offices in Chattanooga for the practice of Obstetrics and Gynecology.

**Dr. Iris A. Pearee**, Memphis, has been selected as the first recipient of the Frank W. Dugan fellowship at the University of Tennessee College of Medicine.

**Dr. Fred S. Simonton**, Chattanooga, has been elected Chief of Staff of the Tri-County Hospital at Fort Oglethorpe.

Recently inducted as fellows in the American College of Surgeons were: **Drs. Lorenzo H. Adams**, **Frank S. Allen**, **W. David Dunavant**, **William F. Mackey**, **Robert P. McBurney**, **Alphonse H. Meyer, Jr.**, **Hubert K. Turley**, **William T. Tyson**, **C. Frank Yates**, all of Memphis; **Howard Wilson Whitaker, Jr.**, of Savannah; **William R. Cate, Jr.**, and **Dr. Douglas H. Riddell**, of Nashville; **W. Powell Hutcherson**, of Chattanooga; **John F. Lawson** and **James M. Sams**, of Johnson City; and **King A. Jamison**, of Mountain Home.

**Drs. W. T. Fitts** and **George Harvey, Jr.**, have opened the Medical Clinic in Jackson.

**Dr. R. E. Semmes**, Memphis, has been elected President of the Baptist Hospital Medical Staff. **Dr. J. D. Evans** was named Vice-President and **Dr. Russell H. Patterson**, Secretary.

## WOMAN'S AUXILIARY

### Welcome, Sumner County Medical Auxiliary

It is extremely pleasant to welcome the Sumner County Medical Auxiliary, born October 12, 1954. Chief attending physician was **Dr. John B. Wallace**, President of the Sumner County Medical Society, ably assisted by the Secretary, **Dr. W. B. Farris**, and **Dr. V. M. Small**. The ever important moral support was tendered by the remaining members and their guests, **Dr. W. N. Cook** of Columbia, **Dr. Lynch Bennett** of Nashville, and **Dr. W. W. Hubbard**, also of Nashville.

Following a beautifully appointed dinner at the Country Club at Gallatin, **Dr. Wallace** introduced **Mrs. Bennett**, a past president of the Auxiliary, to the TSMA, who, in turn, introduced **Mrs. Hubbard**, President, and **Mrs. Roy A. Douglass** of Huntingdon, President-Elect of the State Auxiliary.

In her remarks regarding the activities of the Auxiliary, **Mrs. Hubbard** explained the close working relationship between the Medical Society and the Auxiliary, maintained through a Council of Advisors appointed by the local Medical Society.

Major projects undertaken by the Auxiliary depend on the need of the community. Nurse Recruitment may be advanced by the



establishment of Future Nurses' Clubs for High school students. These have proved to be a good source of student nurses in many communities throughout the country. Courses of instruction regarding nurse curricula, specialty fields, schools of nursing and even a capping ceremony have been most interesting to the high school students.

Cooperation in the local Civil Defense effort and support of the Red Cross Nurse Aide program, being conducted at the request of the State Civil Defense Office, is another way in which to serve.

The American Medical Education Foundation was described briefly and benefits to the Tennessee Medical Schools noted.

The group was reminded, also, of Today's Health, the ever-increasingly-interesting official AMA publication for lay people, as an excellent aid to better understanding between the patient and his physician.

Immediately following the general meeting, the ladies retired to separate quarters to conduct the mechanics of organization, under the able direction of Mrs. Douglass. A resolution to organize was adopted and signed by the charter members.

The officers elected were: Mrs. Walter Stephenson, President; Mrs. J. R. Blackshear, Vice-President; Mrs. W. M. Dedman, Secretary; and Mrs. I. N. Kelley of Hartsville, Treasurer. They were duly installed by Mrs. Hubbard.

The Executive Committee, consisting of the officers, then met to appoint the committee chairmen: Program, Mrs. James A. Loveless; Press and Publicity, Mrs. W. B. Farris; Finance, Mrs. C. D. Giles; Public Service, Mrs. Max Painter and Mrs. Ralph W. Simonton, Jr., of Portland; Legislation, Mrs. Robert Moore, Jr.; Today's Health and Bulletin, Mrs. Albert G. Dittes of Portland; Organization, Mrs. J. R. Blackshear; Archives, Mrs. James Robert Troutt.

The President, Mrs. Stephenson, thanked Mrs. Homer Reese for the beautiful floral decorations.

**Illustrated. Los Altos, California: Lange Medical Publications, 1954. Price \$4.50.**

This excellent book is ideally written to provide interpretation and correlation of microbiologic observations and problems in clinical infection. In addition, it covers a wide field of theoretical microbiology. Of great practical interest is the section devoted to antimicrobial drugs. Since this book is primarily concerned with bacteriology, virology, and mycology, it will not be very useful to practitioners whose facilities for making cultures and serologic tests are limited. The book should find its greatest use among students, house officers, and physicians whose field of interest concerns infectious diseases.

VERNON KNIGHT, M.D.

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**Oral Cancer. By J. Roy Bourgoynne, B.S., D.D.S. Philadelphia, Pa.: Lea & Febiger, 1954. 295 pages, illustrated. Price \$6.50.**

It is most appropriate that a dental surgeon should make an urgent plea to his fellow dentists for the early recognition of intra-oral cancer. As stressed by Dr. Bourgoynne, theirs is the great opportunity for both good prophylaxis against mouth malignancies as well as the early detection of the presence of cancer. The dentist is often the first to be consulted for any abnormality in this region. And yet he states that 62 per cent of all mouth cancers seen first by dentists were not recognized as such. The authors best chapter is the next to last, in which he emphasizes the responsibility of the dentist and urges him to so prepare himself as to be able to recognize and diagnose properly intra-oral malignancies and its precursors. There are several chapters dealing with theories of cancer etiology and spread, cancer research and much discussion of the cancer problem throughout the body. This material is rather far afield from intra-oral cancer and might discourage the young dentist from reading the more pertinent and worthwhile chapters. The chapters on irradiation therapy and prosthetics are interesting. However, one sees little discussion or mention of the radical surgical approach to these distressing problems, which approach, it is now widely recognized, is so often necessary if these unfortunates are to be given a fair chance of survival.

Dr. Bourgoynne has done well to bring this problem to the attention of the dental profession and it is to be hoped that his book will find its way into the office of every dentist and that his sense of responsibility toward cancer detection will be inculcated into each and every member of the profession.

LOUIS ROSENFELD, M.D.

## BOOK REVIEW

**Review of Medical Microbiology. By Ernest Jaweta, Ph.D., M.D.; Joseph L. Melnick, Ph.D.; and Edward A. Adelberg, Ph.D. 360 pages. il-**

## ANNOUNCEMENTS

### Postgraduate Seminar in Pediatrics

The Pediatric Department at Vanderbilt University School of Medicine announces a Postgrad-

uate Seminar on Thursday, February 17, 1955. In a series of "wet clinic" demonstrations of sick and well children all of the recent advances in pediatrics will be discussed.

Five hours of credit for the participants have been certified by the Academy of General Practice. A \$5.00 registration fee will be charged to cover expenses of mailing, mimeographing and for a buffet luncheon which will be served in the Hospital Dining Room.

The program will include case presentations of interesting material and a demonstration of diagnostic and therapeutic procedures commonly used in Pediatrics. Discussions will also be given on Recent Advances in Children's Surgery; Recent Advances in Nutrition in Children; Treatment of Streptococcal Infections and the Prevention of Complications; Immunization Procedures; Neonatal Problems; and Common Genitourinary Problems.

### **American College of Chest Physicians**

The College will sponsor the Eighth Annual Postgraduate Course on Diseases of the Chest, at the Bellevue-Stratford Hotel, Philadelphia, March 7-11, 1955. Tuition is \$75.00. Further information may be secured by writing to the Executive Director, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

### **International College of Surgeons**

Section meetings will be held in Washington, D. C., February 11 and 12, and in Houston, Texas, February 28 and March 1.

### **New Orleans Graduate Medical Assembly**

The eighteenth annual meeting will be held March 7-10.

### **National Conference on Rural Health**

The tenth annual conference sponsored by the A.M.A. Council on Rural Health is scheduled for February 24-26 in Milwaukee, Wisconsin.

## **Videclinic**

The American Medical Association will present the first "Videclinic" over a closed circuit television network to 32 cities across the nation on February 9th. The "Videclinic" is a one and one-half hour, black and white, televised postgraduate medical education program presented for the exclusive viewing of all practicing physicians, residents, interns, and senior medical students. The subject of this initial "Videclinic" will be coronary disease, discussed and clinically demonstrated by twelve of the country's foremost heart specialists.

The Memphis and Shelby County Medical Society will be host when the "Videclinic" will be presented on large screen television at 8 p.m. Central Standard Time at the King Cotton Hotel in Memphis.

Medical Societies in the 32 cities selected to receive the "Videclinic" are being assisted with the promotion of this program by the American Medical Association and Smith Kline & French Laboratories. Posters, advance news releases and mailings to physicians are being completed in order to build a large audience. Doctors in the West Tennessee area are urged to take advantage of this unusual postgraduate education opportunity.

## **THE PRESIDENT'S LETTER**

*(Continued from page 28)*

world's highest standards of health and medical care, and this has been achieved under a voluntary system which emphasizes free enterprise, individual initiative and responsibility, and cooperative effort.

It is impossible to estimate the value to the individual physician and to the public in having a strong state association and an equally strong national association, asserting its position and policies effectively.

Our membership in both associations yields real and important dividends and makes for strength in organized medicine.

May we all have a happy and productive New Year.



## PLACEMENT SERVICE

The placement service of The Tennessee State Medical Association is designed to assist doctors and communities to get together. Further information and contacts on both physicians and communities are available from the Public Service Department, 322 Doctors Building, Nashville 3, Tennessee.

### Locations Wanted

A 28 year old, married physician, Protestant, graduate University of Tennessee 1949, three years training in general surgery, priority 4, completing residency June 1954, available July 1, 1954. Desires community 20-100,000. LW-76

A 38 year old, married physician, Catholic, priority 4, graduate Hahnemann Medical College, Philadelphia, Pa., GP-Surgery, community preferred, 5-10,000. Available two months after selection of community. LW-77

A 27 year old, married physician, Catholic, priority 4, graduate Loyola University, Chicago, 1952, wants locum tenens near Memphis July 1-September 30. General Practice. LW-78

A 42 year old, married physician, Catholic, graduate Tulane, Draft exempt. Specialty Internal Medicine, desires clinic, assistant or associate in community 50,000 or over. Available August, 1954. LW-98

A 33 year old, single physician, Protestant, graduate Faculty of Medicine, McGill University, Montreal, Canada. Priority IV. Medicine and surgery, clinic, assistant or associate in community 5,000-10,000. Available July 15. LW-100

A 31 year old, married physician, Catholic, graduate University of Tennessee. Priority IV, specialty training three years general surgical residency. Community 25,000 or more. Available immediately. LW-103

A 36 year old, married, Episcopal, graduate University of Colorado, certified in Ophthalmology. Presently in U. S. Navy. Desires community 20,000-200,000 in East of Middle Tennessee. Available July, 1955. LW-104

A 32 year old, married physician, Protestant, graduate Duke University, Priority IV. Would consider clinic, assistant or associate. Desires general practice in community 4,000 to 10,000 preferably East or Middle Tennessee. Available July 1st. LW-107

A 50 year old, married, Protestant, graduate Vanderbilt University, desires general practice in community 10,000-25,000. Would consider assistant or associate. Available September, 1954. LW-117

A 30 year old, married physician, graduate University of Tennessee, Priority IV-A. Desires general practice. Available Feb. 1, 1955. LW-125

A 40 year old, married physician, Episcopalian, graduate Bowman Gray, Priority IV, Diplomate American Board Internal Medicine, Sub-specialty training in Gastroenterology. Clinic, assistant or associate. Available immediately. LW-127

A 28 year old, single physician, Episcopalian, now in active duty. Board eligible in pediatrics, desires community 10,000 plus. Clinic, assistant or associate. Available August 31. LW-128

A 30 year old, married physician, Protestant, graduate Bowman Gray, Priority IV, Board qualified in Obstetrics and Gynecology. Size of community open. Group practice, assistant or associate. Available September 1. LW-129

A 29 year old, married physician, Protestant, graduate Vanderbilt University, priority IV, Available after completing hospital requirements for Internal Medicine Boards on July 1, 1955. LW-132

A 32 year old, married physician, Protestant, graduate Indiana University Medical School, board qualified Urologist. Being relieved from active duty. Desires clinic. Available July 1955. LW-133

Physician, married, Presbyterian, Graduate Emory University. Certified American Board of Surgery. Being released from service. Desires general surgery, clinic, assistant or associate. Available now. LW-134

A 33 year old, married physician, Protestant, graduate Columbia University. Priority IV. Desires surgery in community 8,000 and up. Clinic, assistant or associate. Available January 1955. LW-137

A 30 year old, married physician, Lutheran, graduate University of Nebraska, Board Eligible, American Board of Internal Medicine. Desires clinic, assistant or associate. Available January 1, 1955. LW-138

A 29 year old, married physician, graduate University of Kansas, Protestant. Presently in residency training. Desires general practice in community 500-3,000. Available April 1955. LW-139

A 31 year old, married physician, Baptist, graduate Johns Hopkins, presently on active duty. Desires general surgery, clinic, assistant or associate. Available July 1, 1955. LW-140

A 41 year old, married physician, Methodist, Graduate Louisiana State University. Completed first part of American Board of Surgery. Desires general surgery, clinic, associate. Available January 1, 1955. LW-141

A 31 year old, married physician, Protestant, Graduate George Washington University. Certified by American Board of Pathology in Pathologic Anatomy. Priority IV. Desires Pathology—position as director of hospital laboratories. Available now. LW-143

A 42 year old, married physician, Episcopalian. Graduate Cornell University. Certified American Board of Pediatrics. Available three months after application accepted. LW-144

A 30 year old married physician, Catholic. Graduate St. Louis University. Board qualified in dermatology February 1, 1955. Priority IV. Available April 1, 1955. LW-145

A 27 year old, married physician, Episcopalian. Graduate University of Arkansas. At present General Practice Residence. Terminates June 30, 1955. Available July 1, 1955. LW-146

A 28 year old, married physician, State University. Just discharged from service. Desires general practice. Available January 15, 1955. LW-147

A 32 year old, married physician, Canadian, Protestant. Graduate "U" Manitoba, Winnipeg Manitoba. Desires general surgery. Would consider clinic, industrial, assistant or associate. Available February or March, 1955. LW-148

A 34 year old, married physician, graduate University of Arkansas. Priority IV. Desires General and Thoracic Surgery. Clinic assistant or associate. Available anytime after January 1, 1955. LW-149

A 32 year old, married physician, Methodist. Graduate Washington University. Applied for FACS and eligible for Nat'l Boards, March, 1955. Priority IV. Desires surgery. Available July, 1955. LW-150

A 46 year old, married physician, Seventh Day Adventist, graduate College of Medical Evangelists, Loma Linda, California. Board eligible in General and Thoracic Surgery in July 1955. Desires clinic, assistant or associate. Available July 1955. LW-151

A 27 year old, married physician, graduate Tulane University, taken Part 1, American Board of Internal Medicine. Completing military service. Desires Internal Medicine of Cardiology, clinic, Associate. Available July 1. LW-152

A 28 year old, married physician, Methodist, graduate University of Pennsylvania. Three years residency training in ob. Gyn. Priority IV. Desires Clinic, Associate. Available July 1. LW-153

A 34 year old, married physician, Presbyterian, graduate Medical College of Virginia. Board certificate in General Surgery. Priority IV. Desires job for 6 month period—January 5 to July 1, 1955—prior to continuing residency. LW-154

A 36 year old, married physician, Protestant. Graduate University of Pittsburgh. Passed first half of Board of Internal Medicine in October, 1952. Completing military service. Desires clinic, assistant or associate. Available immediately. LW-155

A 37 year old, married physician, Protestant, graduate Medical College of Virginia. Board eligible for American Board of Surgery. 24 months military service. Desires general practice with surgery. Available anytime. LW-156

A 43 year old, married physician, Episcopalian, graduate University of Chicago. Board Certificate American Board of Orthopedic Surgery. Completing military service. Available December 12, 1954. LW-157

A 36 year old, married physician, Protestant, graduate University of Louisville. Three years (board approved) training in Internal Medicine. Priority IV. Desires Industrial Medicine with special interest in Internal Medicine. Available after January 1, 1955. LW-158



# OFFICERS OF THE TENNESSEE STATE MEDICAL ASSOCIATION 1955

**President**—John R. Thompson, Jr., M.D., Jackson Clinic, Jackson  
**President-Elect**—Charles C. Trabue IV, M.D., 104 Twentieth Avenue, North, Nashville  
**Vice-President**—S. Fred Strain, M.D., 899 Madison Avenue, Memphis  
**Vice-President**—J. Fred Terry, M.D., Cookeville  
**Vice-President**—Walter D. Hankins, M.D., Memorial Hospital, Johnson City  
**Secretary-Editor**—R. H. Kampmeier, M.D., Vanderbilt University Hospital, Nashville  
**Executive Secretary**—Jack E. Ballentine, 319-325 Doctors Building, Nashville

## TRUSTEES

James C. Gardner, M.D., Chairman and Treasurer (1955), 429 Doctors Building, Nashville  
 William J. Sheridan, Jr., M.D. (1956), Medical Arts Building, Chattanooga  
 Carrol C. Turner, M.D. (1957), 899 Madison Avenue, Memphis  
 Robert N. Buchanan, Jr., M.D., Doctors Building, Nashville  
 A. M. Patterson, M.D., Medical Arts Building, Chattanooga

## SPEAKER OF THE HOUSE

Robert N. Buchanan, Jr., M.D., Nashville  
**Vice-Speaker**—Joseph W. Johnson, Jr., M.D., Chattanooga

## PRESIDENTS AND SECRETARIES OF COUNTY MEDICAL SOCIETIES, 1954

**Anderson-Campbell**  
 S. G. McNeeley, Norris, Pres.  
 Roscoe C. Pryse, LaFollette, Sec.  
**Bedford**  
 Grace Moulder, Shelbyville, Pres.  
 Taylor Farrar, Shelbyville, Sec.  
**Blount**  
 B. P. Ramsey, Maryville, Pres.  
 W. N. Dawson, Maryville, Sec.  
**Bradley**  
 Joseph McCain, Cleveland, Pres.  
 William R. Smith, Cleveland, Sec.  
**Chattanooga-Hamilton County Medical Society**  
 William E. Van Order, Chattanooga, Pres.  
 Arch H. Bullard, Chattanooga, Sec.  
 Robert C. Hart, Medical Arts Bldg., Chattanooga, Exec. Sec.  
**Cooke**  
 Glen C. Shults, Newport, Pres.  
 W. E. McGaha, Newport, Sec.  
**Consolidated Medical Assembly**  
 J. L. Armstrong, Somerville, Pres.  
 S. M. Herron, Jackson, Sec.  
**Coffee**  
 Horace Farrar, Manchester, Pres.  
 B. S. Swindoll, Tullahoma, Sec.  
**Cumberland**  
 William E. Evans, Crossville, Pres.  
 A. M. Taylor, Crossville, Sec.  
**Davidson**  
 Charles C. Trabue IV, 104 Twentieth Ave., No., Nashville, Pres.  
 Oscar Noel, 2118 West End Ave., Nashville, Sec.  
 Jack Drury, 647 Doctors Bldg., Nashville, Exec. Sec.  
**Dickson**  
 William M. Jackson, Dickson, Pres.  
 L. C. Jackson, Dickson, Sec.  
**Dyer-Lake-Crockett**  
 J. C. Moore, Dyersburg, Pres.  
 W. I. Thornton, Jr., Dyersburg, Sec.  
**Fentress**  
 Guy C. Pincley, Jamestown, Pres.  
 J. Peery Sloan, Jamestown, Sec.  
**Franklin**  
 P. J. Flippin, Decherd, Pres.  
 George L. Smith, Winchester, Sec.  
**Giles**  
 Robert B. Agee, Pulaski, Pres.  
 J. Harvill Hite, Jr., Pulaski, Sec.  
**Greene**  
 Luke Ellenburg, Greeneville, Pres.  
 Haskell B. McCollum, Greeneville, Sec.

**Hamblen**  
 Frank L. Milligan, Jefferson City, Pres.  
 E. Gene Lynch, Morristown, Sec.  
**Hawkins**  
 James S. Lyons, Rogersville, Pres.  
 C. C. Johnson, Rogersville, Sec.  
**Henry**  
 J. H. McSwain, Paris, Pres.  
 R. G. Fish, Paris, Sec.  
**Hickman-Perry**  
 O. A. Kirk, Linden, Pres.  
 Parker Elrod, Centerville, Sec.  
**Humphreys**  
 Arthur W. Walker, Waverly, Pres.  
 H. Capps, Waverly, Sec.  
**Jackson**  
 L. R. Dudley, Gainesboro, Pres.  
 W. T. Anderson, Gainesboro, Sec.  
**Knox**  
 George L. Inge, Medical Arts Bldg., Knoxville, Pres.  
 Ralph H. Monger, Medical Arts Bldg., Knoxville, Sec.  
**Lauderdale**  
 O. F. Moore, Jr., Ripley, Pres.  
 C. R. Webb, Ripley, Sec.  
**Lawrence**  
 W. O. Crowder, Lawrenceburg, Pres.  
 Laurence B. Molloy, Lawrenceburg, Sec.  
**Lincoln**  
 R. E. McCown, Fayetteville, Pres.  
 W. D. Jones, Fayetteville, Sec.  
**Macon**  
 E. M. Froedge, Lafayette, Pres.  
 C. C. Chitwood, Jr., Lafayette, Sec.  
**Maury**  
 C. D. Walton, Mt. Pleasant, Pres.  
 Carl C. Gardner, Jr., Columbia, Sec.  
**McMinn**  
 Thomas Beaman, Etowah, Pres.  
 Louis D. Cutner, Athens, Sec.  
**Memphis-Shelby County Medical Society**  
 S. Fred Strain, 899 Madison Ave., Memphis, Pres.  
 Edward D. Mitchell, Commerce Title Bldg., Memphis, Sec.  
 Robert C. Bird, 1363 Union Ave., Memphis, Exec. Sec.  
**Monroe**  
 R. C. Kimbrough, Madisonville, Pres.  
 D. F. Heuer, Sweetwater, Sec.

## COUNCILORS

**First District**—H. L. Monroe, M.D. Erwin (1956)  
**Second District**—Joe L. Raulston, M.D., Knoxville (1955)  
**Third District**—Cecil E. Newell, M.D., Chattanooga (1956)  
**Fourth District**—John T. Moore, Jr., M.D., Algood (1955)  
**Fifth District**—H. T. Kirby-Smith, M.D., Sewanee (1956)  
**Sixth District**—D. C. Seward, M.D., Chairman, Nashville (1955)  
**Seventh District**—C. D. Walton, M.D., Mount Pleasant (1956)  
**Eighth District**—Leland M. Johnston, M.D., Jackson (1955)  
**Ninth District**—J. Paul Baird, M.D., Dyersburg (1956)  
**Tenth District**—Arthur R. Porter, Jr., M.D., Memphis (1955)

## DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION

W. C. Chaney, M.D., Memphis (1955)  
 R. B. Wood, M.D., Knoxville (1954)  
 C. M. Hamilton, M.D., Nashville (1955)  
**Alternates**—  
 Harold B. Boyd, M.D., Memphis (1955)  
 Edward T. Newell, M.D., Chattanooga (1954)  
 R. H. Kampmeier, M.D., Nashville (1955)

**Montgomery**  
 A. F. Russell, Clarksville, Pres.  
 B. T. Iglehart, Clarksville, Sec.  
**Obion**  
 H. W. Calhoun, Union City, Pres.  
 R. C. Gilliam, Union City, Sec.  
**Overton**  
 A. B. Qualls, Livingston, Pres.  
 Myrtle Lee Smith, Livingston, Sec.  
**Putnam**  
 J. T. Moore, Jr., Algood, Pres.  
 Thurman Shipley, Cookeville, Sec.  
**Roane**  
 George E. Wilson, Rockwood, Pres.  
 T. Guy Fortney, Oak Ridge, Sec.  
**Robertson**  
 John S. Freeman, Springfield, Sec.  
**Rutherford**  
 George Goodall, Smyrna, Pres.  
 S. C. Garrison, Jr., Murfreesboro, Sec.  
**Scott**  
 D. T. Chambers, Norma, Pres.  
 Milford Thompson, Oneida, Sec.  
**Sevier**  
 Ralph H. Shilling, Gatlinburg, Pres.  
 R. A. McCall, Sevierville, Sec.  
**Smith**  
 Gordon Petty, Carthage, Pres.  
 Sam Y. Garrett, 1902 Hayes St., Nashville, Sec.  
**Sullivan-Johnson**  
 W. E. Scribner, Kingsport, Pres.  
 J. E. Williams, Kingsport, Sec.  
**Sumner**  
 John B. Wallace, Gallatin, Pres.  
 W. B. Farris, Gallatin, Sec.  
**Tipton**  
 H. Stirl Rule, Covington, Sec.  
**Washington-Carter-Unicoi**  
 Charles K. Slade, Johnson City, Pres.  
 Walter A. McLeod, Jr., Johnson City, Sec.  
**Weakley**  
 Paul W. Wilson, Dresden, Pres.  
 S. J. Schaeffer, Jr., Dresden, Sec.  
**White-Warren-Van Buren**  
 John T. Mason, McMinnville, Pres.  
 Hoyt C. Harris, McMinnville, Sec.  
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# Journal of the Tennessee State Medical Association

OWNED AND PUBLISHED BY THE ASSOCIATION

Volume 48

FEBRUARY, 1955

Number 2

## Symposium on Bones and Trauma\*

*This symposium was one of the features of the program of the Tennessee Chapter of the American College of Surgeons.*

### INTRODUCTORY REMARKS BY THE MODERATOR

GEORGE K. CARPENTER, M.D., Nashville, Tenn.

Gentlemen, our program this afternoon is a little varied. It is a symposium on Bones and Trauma. I must confess that this title was given to me and that I did not originate it. However, having been asked to moderate this particular subject, I did feel that we have been given a good title on a very timely subject.

We have five panelists here this afternoon and they will each give us a short presentation on a particular phase of this subject. After that we will ask for a discussion of any questions from the audience. We would appreciate your writing your questions after each presentation. Then I will ask

someone to collect them and give them to the individual to whom they pertain.

I will ask all of our panel speakers to come up on the platform and take seats at the table. By doing that, I am sure that it will be easier to answer any questions that we might have. Now, all of you can see the fine array of talent we have and I am sure that none of them needs further introduction.

Dr. Moore is Chairman of the Trauma Committee of the Tennessee Chapter of the College of Surgeons and I will call upon him to start the program.

### THE IMMEDIATE MANAGEMENT OF THE INJURED

MOORE MOORE, JR., M.D., Memphis, Tenn.

Dr. Carpenter and Gentlemen: I have been placed in a rather unenviable position, I believe, in being the first speaker on this type of program, particularly in being limited to twelve minutes. However, I shall do my best to limit my discussion, even though it seems impossible.

This title is as deceptively simple as one at first glance might think the actual management of an injured person to be. However, I am sure that reflection and increasing experience have elaborately enlightened all of us on the difficulties often experienced by one who treats trauma.

In this matter, I wish to emphasize that

the key to successful emergency care is to consider each person as an injured human being, not as a possible fractured femur, intracranial injury or ruptured bladder. Violence sufficient to cause one such injury may well simultaneously produce another.

In the management of severely injured persons, the preservation of life takes top priority. I am sure you all remember the words of Darrach—"It is better to have a live mouse than a dead lion." Thus, we must first do no harm.

Further, the person who first sees a severely injured person must be prepared to perform promptly any one of several life-saving measures, and this may involve some knowledge of several surgical specialties. Death from acute trauma is the result of

\*Read before the meeting of the Tennessee Chapter of the American College of Surgeons, April 19, 1954, Nashville, Tenn.



some lethal alteration in body physiology secondary to, rather than from a specific injury.

The causes of death relatively soon after acute trauma are: asphyxia (carbon dioxide excess and anoxia), hemorrhage, and damage to vital centers of the brain. This is not the place to discuss the diagnosis of these conditions. Suffice it to say that they are not difficult to recognize if they are considered and the injured patient is carefully examined. It is reasonable to expect them to be recognized by any surgeon who expects to treat badly injured persons. Few diagnoses of any kind will be missed if the patient is thoroughly examined.

Asphyxia shortly after injury may be caused by obstruction of airway (mandible or neck injuries in unconscious patients), hemothorax, pneumothorax, flail chest segment or cardiac tamponade.

Time does not permit description of techniques but lifesaving measures in asphyxia may be listed as ordinary oral airway, elevation of the tongue, tracheotomy, especially in the unconscious patient, intercostal block to relieve pain so that secretions may be raised. Chest and pericardial aspiration are sometimes priority treatments. Flail chest may be stabilized by a compression bandage or by skeletal traction, using a towel clip passed about a rib.

Hemorrhage from exposed and accessible areas is usually controllable by a pressure bandage. Occasionally a clamp may be applied to a bleeding major artery but one should be careful not to damage an accompanying major nerve trunk. Also, crushing of the artery and vein may preclude a later primary arterial repair.

The tourniquet is the time honored method of control of bleeding. Once its need is established and it is properly applied, over a broad area and not below elbow or knee where it is of little use, it probably should not be removed until blood replacement has started and the patient has reached the operating room for definitive care of the arterial injury.

Finally, surgical intervention may be necessary to arrest life-endangering hemorrhage. This is particularly true in intra-abdominal and intrathoracic hemorrhage.

In known injuries in these cavities, when the usual resuscitative measures, including adequate blood replacement, do not achieve and maintain resuscitation, surgical intervention is a lifesaving measure. Observe the patient long enough to decide.

Blood transfusion ranks all measures in the resuscitation of the wounded from the effects of severe hemorrhage, regardless of whether the blood is given by vein or the controversial intra-arterial method. World War II and the Korean experience have shown that universal donor blood may be used without individual cross-matching without fear of reaction. The important thing is to get it into the circulatory system rapidly and in adequate quantities. If anesthesia and definitive surgery are contemplated, then there must be sufficient blood available for resuscitation and an additional amount on hand to compensate for the operative loss.

Plasma expanders may be lifesaving while whole blood is being obtained and made ready for transfusion. From the standpoint of resuscitation, plasma, Dextran, polyvinyl-pyrrolidone and lactate-Ringer's solution may be used. Of these, Dextran is preferable. It is now being employed in preference to plasma in the armed forces. It is equally good as a resuscitative agent and is without the risk of homologous serum jaundice, prevalent following the use of pooled blood plasma.

Adjunctive measures in the almost bled-out patient may be lifesaving. There are several measures which are presented in the order in which they may be provided, as soon as the patient is seen.

The head-down position established promptly may be lifesaving. The arterial blood pressure has been observed to rise twenty points after merely elevating the foot of a litter 18 inches. This position can be provided instantly while whole blood is being obtained. It should be pointed out that the head-down position is usually contraindicated in the presence of a significant intrathoracic or intracranial injury for obvious reasons. It may also become or be contraindicated in the obese individual. In such a person, heavy abdominal contents pressing against the diaphragm may, in ob-

structing full excursion of respiration, increase anoxia more than the head-down position can decrease it by raising the arterial blood pressure.

Adequate splinting of broken extremities is a valuable measure tending to aid recovery from shock. The British history of World War I records that the provision of the Thomas splint for emergency battle field splinting of compound fractures of the femur alone resulted in a lowering of the mortality from this injury by 25 per cent. Splinting need not require complicated or extensive equipment. The Thomas splint, a basket or other stretchers are ideal. However, board splints of one kind or another, magazines, pillows and many other materials may be improvised and be efficient. The important thing is to "splint 'em where they lie." This one measure, done adequately, will often minimize or partially prevent loss of fluid into soft tissues and soft tissue injury. Needless to say, many compoundings are prevented.

Clinically, oxygen therapy appears to be valuable in reviving the wounded following severe hemorrhage, although on a theoretical basis it is not indicated unless there is cyanosis.

Damage to vital centers of the brain,—very little can be offered soon after injury to these unfortunate individuals who have sustained sufficient injury to vital centers of the brain to cause death.

The amount of fluid which may be lost into the tissues from the circulation is not to be underestimated. For example, with a closed fracture of the femur in a thigh of average length which measures 16 inches in circumference at the mid-point before injury, and which swells after injury so that the average circumference is increased by two inches, the amount of fluid lost in the thigh may be calculated as approximately 2,200 cc. If there is associated fracture of

both bones of the leg with heavy swelling, another 1,300 cc. is lost from the circulation. Such skeletal injuries usually have associated elsewhere on the body lacerations from which whole blood is lost, and contusions into which both whole blood and extracellular fluid are lost. The total fluid depletion can be very easily from 4,000 to 5,000 cc., which is approximately 35 per cent of the extracellular fluid of a 70 kilo. man. This loss of blood produces the syndrome of traumatic shock which may lead to death unless it is promptly corrected.

The repair solutions are whole blood to compensate for blood loss, and fluids and electrolytes in proper concentration, as in blood plasma. This is best supplied by one-sixth molar lactate-Ringer's solution. Normal saline is a poor repair solution in this situation. It supplies fluid, but the wrong electrolyte concentration. To use only whole blood risks an excessive hematocrit reading and increased blood viscosity, which may result in heart failure and pulmonary edema, before the fluid deficit is restored.

In summary, I wish to emphasize that we are providing emergency supportive care to the injured whole individual who must be carefully examined and evaluated on this basis. We must first use our perceptive senses, medical knowledge, and information gained by such examination before we can manage effectively and rationally.

Auxiliary examinations, such as X-ray films of the skull or extremities, before asphyxia, hemorrhage and shock are controlled or the broken leg splinted, are not indicated at this time and probably will increase trauma to an already seriously injured person.

CHAIRMAN CARPENTER: Our next discussion will be by a neurosurgeon. I am sure that you can readily understand the importance of this aspect of the field.

## ROLE OF THE NEUROSURGEON IN THE FRACTURE PATIENT WITH NEUROSURGICAL COMPLICATIONS

M. FRANK TURNER, M.D., Knoxville, Tenn.

It would seem appropriate at a symposium on "Bones and Trauma" to discuss the significance of skull and spinal fractures, their relationship to the nervous system, and to outline briefly some diagnostic and therapeutic measures that might be of benefit.

### Skull Fractures

Adequate treatment of fractures requires consideration of the function of the bone involved. The principal function of the skull is to protect the brain. Any anatomical interruption of continuity of the cranium by violence may be considered a skull fracture. Roentgenographic evidence of such a fracture indicates only that the skull has received sufficient trauma to result in a crack and is of no other clinical significance. It is unfortunate that even today nearly all laymen, most lawyers, and too many doctors consider a skull fracture an adequate cause of death, when actually a fractured skull has no diagnostic or prognostic value. The primary concern is the effects of trauma upon the structures within the cranial cavity. For this reason, little consideration should be given to the skull except in instances where the injury has opened the cranial cavity to potential infection, altered the intracranial contents by depression of bone, or has severed a middle meningeal artery with resultant epidural hemorrhage. Although the brain is the most important structure within the cranium that may be disturbed by trauma, bony injuries of the skull should be evaluated. The following table serves as an outline for classification:

Table I

#### CLASSIFICATION OF SKULL FRACTURES

|              |  |  |
|--------------|--|--|
| (1) Simple   | (a) Linear                             | not depressed  |
|              | (b) Comminuted                         | depressed<br>depressed over<br>venous sinuses                  |
| (2) Compound | (a) Abrasion of skull                  |  |
|              | (b) Linear                             |  |
|              | (c) Comminuted                         | not depressed<br>depressed<br>depressed over<br>venous sinuses |
|              | (d) Into ear                           |  |
|              | (e) Into nose and/or-accessory sinuses |  |

*Simple fractures* of the skull indicate trauma to the head. They are usually an "X-ray diagnosis." The presence of a subgaleal hematoma is strong evidence of an underlying fracture. A linear fracture requires no treatment. A *simple comminuted fracture* requires no treatment unless it is depressed sufficiently to embarrass cerebral function or produce a cosmetic effect. Diagnosis of *depressed skull fracture* can be made by careful clinical examination of the patient and roentgen-ray studies to determine whether there has been interruption of contour. Depressions adjacent to the motor area, if significant, should be elevated as a prophylactic measure in hopes of reducing morbidity.

*Compound fractures* of the skull require careful cleansing with debriding of necrotic and devitalized tissue. The compound wound must be carefully inspected. The scalp laceration can be extended if necessary. Closure of the scalp laceration should be accomplished with through-and-through sutures for approximation and hemostasis. One should bear in mind that the blood supply to the scalp is superficial to and practically on the galea. *Compound comminuted fractures* that are not depressed are treated as linear fractures. If there are any free fragments possibly contaminated, they should be removed. One must be guided by the apparent potentialities of infection at the time of operation as to how extensive a debridement of the skull is necessary. *Comminuted depressed fractures* with torn dura and lacerated brain require complete excision of all devitalized tissue, including scalp, periosteum, skull, dura, and brain. A depressed fracture over a major venous sinus, particularly in the posterior two-thirds of the cranium, must be handled very cautiously, and occasionally a fragment protruding into a large sinus is best left alone.

Compound fractures into an ear resulting in hemotympanum and/or a cerebrospinal fluid leak require supportive therapy; a position of the head that will encourage leakage of cerebrospinal fluid, the forcing



of fluids, and replacement of chlorides. Antibiotics and chemotherapeutic agents are to be used as prophylactic agents against infection. Cerebrospinal fluid leaking from the nose or ear will usually stop. The patient should be instructed not to blow his nose for fear of introducing a contaminating agent into the intracranial cavity and/or aerocele in the cranial contents. Persistent cerebrospinal fluid drainage from the nose may require surgery to obliterate the drainage point intracranially.

### Diagnostic Measures

By far the most important sign in evaluation and management of craniocerebral trauma is the conscious state. I have been requested to distinguish between unconsciousness due to concussion and that due to alcohol. It is frequently impossible to determine the causative factor, whether trauma, alcohol, or other anesthetic agents. The importance of the history cannot be overemphasized, if such can be obtained, as to how the patient was rendered unconscious, how long he remained so, whether he has shown some improvement, or whether he is becoming progressively stuporous or more comatose. I have purposely avoided the use of the word *concussion*, because it should be limited in its use to signify the state of an individual who has been rendered momentarily unconscious by a blow to the head, from which he regains consciousness and suffers no untoward sequelae. By this definition, time will probably distinguish concussion from complete inebriation due to alcohol.

Standard nomenclature should be used in designating gradations of altered consciousness. *Drowsiness* should be employed when the patient tends to go to sleep when left alone, but when spoken to or superficially stimulated will arouse and carry on an intelligent conversation or be in verbal contact with his environment. The term *stupor* should be used when verbal response is lost but purposeful movements with the extremities ward off painful stimuli. *Coma* should imply complete loss of all perception, even the most painful stimuli.

On the basis of altered conscious state, the clinical courses of patients having sus-

tained significant craniocerebral insult justify classification into three general groups:

(1) The first consist of those without immediate loss of consciousness but later become drowsy, progressing into stupor and coma.

(2) The second group are immediately unconscious, later show spontaneous improvement, but subsequently develop progressive drowsiness or stupor.

(3) The third are unconscious and remain so, showing no evidence of improvement.

The first two groups are clinical courses indicative of surgically amenable lesions. The third usually do not respond to therapeutic measures and indicate generalized brain damage. It should be said that, with the exception of the obvious compound and depressed fractures of the skull, it is rarely possible to identify abnormal physical findings, either singly or in combination, that are unequivocal evidence of an intracranial lesion in need of surgical therapy.

### Surgical Lesions

The surgical lesions resulting from craniocerebral trauma are: open and depressed fractures of the vault of the skull, epidural and intracerebral hemorrhages, and the various subdural collections. They are usually complicated by other brain damage. (*Fractures* requiring surgery have been briefly discussed above.)

*Epidural hematomas* in most instances are produced by bleeding from a middle meningeal artery. One might expect such a case to fall in either group 1 or group 2 and show rapid progression by virtue of arterial bleeding within a relatively rigid, closed box, the cranium. An individual showing this clinical course represents a surgical emergency. Occasionally epidural hematomas of long standing are encountered, but they are a surgical rarity. In most instances arterial bleeding continues, producing a rapidly expanding intracranial mass which, if not removed and the bleeding checked, will produce irreversible brain stem damage and death. The timely removal of an uncomplicated epidural hematoma should result in recovery of the patient.

*Intracerebral hematomas* are produced predominantly by arterial bleeding and are

usually associated with other surface traumatic lesions of the cranium. The clinical course is similar to epidural hematomas. The majority of these hematomas are caused by disruption of a cortical or sulci artery, bleeding into the brain rather than through the arachnoid into the subdural space. The dura, arachnoid, and a thin layer of cortex may be caught or "pinched" in a cranial fracture, producing a circumstance very conducive to the development of an intracerebral hematoma. The vessels are not on rigid or on semirigid structures, like the dura, or fixed to the skull. Arterial bleeding may be checked by virtue of the hematoma pressing or distorting the vessel to the point of obliterating its bleeding point. As such bleeding advances, it may also tear smaller intracerebral vessels. A rapidly progressive course over a period of several hours is the rule with traumatic intracerebral hematomas.

*Subdural hematomas* result from venous bleeding. They present a slower course over a period of days to weeks or longer, are not a surgical emergency, and may show fluctuating alteration of conscious state from day to day.

An individual who has sustained craniocerebral insult, with or without initial loss of consciousness, who, after a variable period of time, shows significant alteration of consciousness is an intracranial hematoma suspect. These circumstances require surgical investigation.

#### Therapeutic Measures

Most patients sustaining severe craniocerebral insult are first seen in an unconscious state. The treatment at that time resolves itself into the care of the unconscious patient, as well as of the associated injuries, such as shock, etc., which has been so well covered by Dr. Moore in his discussion of "The Immediate Management of the Injured." I would like to re-emphasize some of the features he has brought out.

The management of patients who have sustained craniocerebral trauma, until and unless an intracranial expanding lesion is suspected requiring immediate attention, reduces itself to palliative, supportive, and hygienic measures. They include:

(1) *Maintaining adequate airways.* The patient should be in bed in a position in which there is unobstructed return of venous blood from the head with free respiratory exchange. These requirements are usually met by a modified Fowler's position, with the patient on his side in such a posture as to permit the tongue to gravitate forward and to give free drainage of the mouth and nasal secretions. Such a patient should be turned carefully from side to side at least every two hours to prevent hypostatic congestion. Suction by means of a small catheter into the trachea via the nose is needed to keep air passages clean. The unconscious patient should not be permitted on his back, particularly with face up so that the tongue may produce mechanical obstruction. If respirations are still labored and cannot be relieved in this way, tracheotomy should be resorted to without delay. Forceful respirations, straining and coughing result in increased intracranial pressure by virtue of obstruction of the deep and superficial neck veins. When the surgeon wonders about doing a tracheotomy under these circumstances, it should already have been done.

(2) *Fluid balance and nutrition.* The fluids should be high in protein and, if there is a cerebrospinal fluid loss, the chloride intake increased. The early use of Levine tube feeding in an unconscious patient is encouraged. There is no place in the treatment of craniocerebral trauma for therapeutic dehydration. It is far better to give too much fluid than not enough. The patient with cerebral trauma needs an intake never less than that required in his normal state. This should definitely be increased to replace the fluid lost by vomiting, sweating, fever, and hyperventilating. The average adult should have not less than 2,500 to 3,000 cc. in 24 hours. A simple index to guide intake is the specific gravity of the urine.

(3) *Control of body temperature.* Temperature should be maintained below 102° rectally by antithermic measures. Usually, if respirations are free and the patient is not dehydrated, hyperthermia is not a problem. Under exceptional circumstances it may be necessary to resort to alcohol baths, ice, electric fan, and surface skin stimulation.

(4) *Sedation* sufficient to insure against excessive motor activity by use of chloral hydrate and sodium luminal. The sedation must be used cautiously, since the conscious state may be affected and is the significant evaluating factor in the condition of the patient.

(5) *Mechanical restraint* in the form of crib bed to prevent the patient from falling to the floor or a padded canvas belt about the hips in very active patients. The hands may be wrapped in "boxing gloves" so that Levine tubes and catheters cannot be removed or objects grasped in the fist.

(6) *Antibiotics* are used as a prophylaxis in the presence of open wounds or cerebrospinal fluid leakage.



(7) *Indwelling catheter.* This permits accurate determination of output and prevents soiling of bed, dressings, or casts if present.

#### Discussion

The relative number of patients requiring surgery following craniocerebral trauma is low. I am not in accord with the statement, "If you don't know what to do, operate." It is better, if you do not know what to do, to "do nothing." Neither can I sanction operating upon the critically injured patient's head with the attitude, "What is there to lose?" There are things to "lose" at times, in that a few of the patients with severely injured brains recover with proper conservative treatment. Such patients cannot be helped by surgery and may not tolerate such meddlesome procedures. These concepts of treatment stem from inexperience. The new "house man" on a large traumatic service soon reduces his surgical exercise, as should the embryo neurosurgeon in his practice.

#### Fractures of Spinal Column

Time has permitted brief reference to some of the major features of craniocerebral trauma. Injuries to other parts of the nervous system have not been mentioned. I have been requested to outline the indications for laminectomy in fractures of the spine. My ideas on this subject will require very little time but may prompt considerable discussion.

In recent years, certain groups over the country have advocated surgery upon practically every patient presenting a fracture of the spinal column. I would not recommend such practice any more than it would be advisable to remove the appendix from every patient with abdominal pain. Fortunately some of these surgeons are becoming a little more conservative.

#### *Indications for Cervical Laminectomy.*

(1) *Acute fractures.*—With the proper use of skeletal traction (Crutchfield tongs), I doubt that surgery would be necessary.

(2) *Old fractures.*

(a) Hypertrophic arthritic spurring producing cervical spinal nerve compression syndrome.

(b) Bony or cartilaginous lesions encroaching upon the spinal cord producing progressive spinal cord signs.

(c) Recurrent dislocating or subluxating odontoid processes or cervical facets may require modified laminectomy with some type of fixation.

*Fractures of the Thoracic Spine.* Fractures of the vertebral column with implication of the spinal cord are rarely benefited by laminectomy. Whether the insult to the cord results from closed injuries or compounded by missiles, the damage is done at the time of insult. Such patients usually receive additional trauma to the cord while being transported away from the scene of accident. It is my belief that closed reduction of most thoracic fractures will result in as good or better recovery of function than routine exploration. Added insult to the spinal cord may be produced by the manipulation in the operating room of a fragment of depressed lamina. One might consider certain possible indications for laminectomy:

(1) *Acute.*

(a) Epidural hematoma. A progressively increasing course of spinal cord dysfunction suggests the presence of such a lesion.

(b) Laminar compression. Definite and unequivocal evidence. Compression of the cord by a laminar process when associated fractures would indicate the laminar depression to be the most significant lesion.

(2) *Chronic.*

(a) Radicular pain secondary to fracture about a neural foramen may justify decompression of the spinal nerve involved.

(b) Progressive spinal cord disease secondary to any proliferation of bone causing insult to the spinal cord.

*Fractures of the Lumbar and Sacral Spine.* Discussion of thoracic spinal fractures included those down to lumbar 2. Fractures below this level implicate the cauda equina which may be considered as peripheral nerves, or at least not associated with the spinal cord. Laminectomy at levels below lumbar 2 may be carried out more radically if cauda filaments are implicated, since the spinal cord does not come in for consideration. Sometimes compressed cauda filaments may be freed up with benefit. Indications for laminectomy:

(1) *Acute.*

(a) Evidence of an increasing or progres-



sive lesion. Spinal epidural hematoma; partial interruption advancing toward complete transverse interruption of physiological function.

(b) One or more cauda roots partially involved with progression in dysfunction.

(c) Severe pain due to lumbar or sacral spinal nerve compression,—may be herniated nucleus pulposus associated with fracture or spinal nerve implicated by fracture.

(2) *Chronic*.—Failing to recover or getting progressively worse due to proliferation of bone in the old fracture.

### Gunshot Wounds

Gunshot or missile wounds were omitted from the above, since they are problems of themselves. The idea of "removing the bullet" is a highly overrated one and rarely is indicated or necessary unless for legal purposes. Certainly the damage to the spinal cord occurs at the time of impact. The spinal cord injury does not localize itself to the immediate vicinity of the bullet. The destructive forces brought about by the bullet may physiologically interrupt the cord and not be near the neural canal, or the bullet may pass through the cord. It is inconceivable that laminectomy would help under these circumstances. If the bullet "lodges" in the canal, one would expect irreversible changes in the cord. One might consider under extremely unusual circumstances that a bullet might get into the spinal canal and migrate. If it should arrest itself and become symptomatic at some distant site, one might remove the bullet.

Laminectomy directed at benefiting the spinal cord following gunshot wounds must be exceedingly rare. If one does laminectomies on all gunshot wounds about the spinal canal, the results may statistically appear good. Such injured patients, however, would probably have had the same degree of recovery if not operated upon. If laminectomy is for the purpose of reduc-

ing the possibility of infection, then we should so state and not mislead the reader. The percentage of civilian bullet wounds that get infected seems rather small; clothing and other soft foreign bodies usually remain more superficial than the metallic bullet. As in the case of closed fractures, bullet wounds of the cauda equina are to be considered as peripheral nerve injuries. Surgery may be indicated at times in this area.

### Summary

Proper management of head injuries requires the clinician to determine whether or not there are present any of the following lesions: significantly depressed fractures of the vault; epidural, subdural, and/or intracerebral hematomas. These alone may be benefited by surgical procedures. Other pathological processes than these, such as generalized cerebral contusion and laceration, call for institution of supportive measures.

In acute cervical fractures I doubt that there is ever indication for laminectomy. The indications in the dorsal area in early injuries are also rare, but occasionally one encounters compressing laminal or spinous process fractures that may make the patient a candidate for surgery. The lower lumbar region contains the cauda equina and not the spinal cord. Laminal fractures compressing the cauda nerves may present indications for laminectomy. Rarely, evidence of an expanding lesion develops and laminectomy may disclose a significant spinal epidural hematoma. In old or late fractures, laminectomies may be necessary to relieve pain or to decompress an excessive proliferation of bone producing a delayed compressing lesion.

CHAIRMAN CARPENTER: Thank you very much, Doctor Turney.

The next subject will be the "Diagnosis and Treatment of Thoracic Injuries Complicating Fractures," by Dr. Rollin A. Daniel, Jr.

## THE DIAGNOSIS AND TREATMENT OF THORACIC INJURIES COMPLICATING FRACTURES

ROLLIN A. DANIEL, JR., M.D., Nashville, Tenn.

Dr. Carpenter and Gentlemen: Obviously we cannot discuss in detail all of the thoracic injuries which may occur and their diagnosis and treatment. However, there are certain principles and generalities which are helpful in the diagnosis and management of thoracic injuries, whether they be of minor or complicated nature.

In the first place I would like to emphasize again the points that Dr. Moore made about the importance of careful examination of the patient, and about waiting for X-ray films and their interpretation, particularly as they apply to extensive thoracic injuries. I believe that one can determine accurately, in most instances, exactly what the situation is, insofar as those circumstances which require immediate or emergency treatment, by the simple physical examination of the patient.

Signs which are obvious to anyone who examines a patient and which may indicate serious injury are dyspnea, cyanosis, subcutaneous emphysema, venous distention and shift of the mediastinum.

In order to try to discuss the handling of people with extensive injuries of the chest, I think one must characterize, to some extent.

*Sucking wounds* in the chest should be closed immediately and this can be done by the simple application of a dressing until the patient's condition can be evaluated and definitive therapy instituted.

*Pneumothorax*, if small, need cause no concern. If there is a progressive increase in the amount of air, however, measures should be instituted to allow for the relief of tension and the rapid re-expansion of the lung. One can determine this by examination and by X-ray films, preferably obtained at the bedside. If one finds evidence of continuing collapse of the lung, a catheter can be very easily inserted into the cavity on which side the tension exists and the catheter then connected with a flutter valve or a water seal device which will allow for the escape of air but will not allow air to enter the pleural cavity. The catheter

should always be introduced through an intercostal space in the anterior chest wall and not posteriorly. The patient can then turn from side to side in the bed without discomfort and without occluding the catheter. Further, it should be introduced into the pleural cavity only a short distance so that the opening will not be occluded by blood or fibrin.

The treatment of the *hemothorax*, I think, in most instances, is fairly simple. One should want to bring about complete re-expansion of the lung as soon as possible. This can usually be accomplished by early and repeated aspiration of the chest. The blood, however, might be clotted and it may not be possible to remove it through an aspirating needle. Under those conditions, if the patient is not in respiratory distress because of the presence of large amounts of blood and perhaps of air in the pleural cavity, one can afford to wait until the condition of the patient has become stabilized. Other injuries should have been cared for before any definitive treatment is carried out.

Our experience with the use of the various fibrinolytic agents has been disappointing. I have come to feel that the great amount of fluid which I am able to aspirate after placing these materials into the chest is a result, at least in part, of increased transudation of fluid because of the presence of the material in the cavity, and I rather doubt, on the basis of our limited experience, whether or not we have accomplished much in very many patients by the use of these agents. We still use them on occasion but we do not have much enthusiasm for them. I have not had very much experience with the use of trypsin, although we have used it in a few patients.

If it is impossible to remove large quantities of blood from the cavity by means of needle aspiration in order to obtain rapid expansion of the lung, the patient's thorax can be opened after a period of several days, and after the patient's condition would justify it, and the blood be evacuated. One

can obtain a satisfactory result in a patient with hemothorax as long as several weeks or months after the injury, when the chest can be opened and decortication of the lung be performed. Again, I feel if one is convinced that this is going to be necessary, the sooner it is done the better.

Now, with regard to *rupture of the diaphragm*,—herniation occurs following disruption on the left side. When it occurs on the right side of the diaphragm, it is often associated with injury to the liver. There is rarely herniation of abdominal viscera into the right pleural cavity and the problem is usually concerned with injury of the liver and perhaps of other abdominal viscera. Even with a small opening through the left diaphragm, there will be herniation of the small intestine, a major portion of the stomach, often of the spleen, and often a portion of the colon, into the left pleural cavity. Partial or complete intestinal obstruction will ensue with resulting distention of the viscera, collapse of the lung and displacement of the mediastinum toward the right. Dyspnea, sometimes associated with cyanosis, nausea, and often vomiting will be present. The absence of breath sounds and the presence of bowel sounds over the left hemithorax, in the absence of abdominal distention, should establish the diagnosis and a roentgenogram of the chest will confirm it. Repair of the defect of the diaphragm and reduction of the hernia should be accomplished as soon as the diagnosis is made.

There is one thing wrong with making a thoracic incision alone,—it is very difficult to crowd the intestine back into the abdominal cavity. The procedure can be carried out through a combined thoraco-abdominal or through an adequate abdominal incision alone. Often I have made two incisions, a short abdominal and a left anterior thoracic incision.

Now, I would like to comment upon a matter which has already been mentioned by Dr. Moore, namely, the importance of *bronchial obstruction*.

In the presence of extensive thoracic injury, damage to the lungs may be variable, hemorrhagic consolidation may be widespread, bleeding into the alveoli and bronchi may be diffuse, and an increase in the

secretion of mucous is always present. With subsequent drying, thick plugs of sanguinous mucous may obstruct the bronchi.

In the individual with an extensive injury, and particularly in the person who has a flail chest wall, such as results from the "steering wheel injury," the problem of bronchial obstruction is an extremely serious one. The paradoxical motion of the chest wall will nullify to a large extent the effective action of the diaphragm is displacing air, so that the exchange of air in the lungs is markedly reduced even with strenuous respiratory effort. The cough becomes difficult and ineffective, and with the increased outpouring of mucous mixed with blood in the bronchial tree, a vicious circle is established. Visceral mucous and blood will, with a continued violent respiratory effort, become impacted farther and farther down in the smaller bronchi and bronchioles where it cannot become dislodged by coughing, bronchoscopic suction or by any other means. Now, under these circumstances two measures must be carried out early.

The importance of maintaining a clear air way and an adequate exchange of air to and from the alveoli should be matters of immediate concern. This can be done by encouraging the patient to cough, by stabilizing the chest wall, and by use of intercostal novocaine block in order that the patient may cough with less discomfort. If this is not effective, bronchoscopy can be done, but in the person with extensive injuries this may be difficult to accomplish repeatedly. Under these circumstances, a tracheotomy should be done early in order that the secretions may be aspirated from the trachea and larger bronchi before it becomes inspissated and impacted within the terminal bronchi. Further, one may lose the patient if some of these measures are not instituted early. I feel if there is a question in one's mind as to whether or not a tracheotomy should be carried out, it is definitely indicated in most instances. I have never yet seen a patient die because of a tracheotomy but I have seen a number of patients lost for want of a tracheotomy.

CHAIRMAN CARPENTER: Next it is my pleasure to introduce Dr. Henry T. Kirby-Smith of Sewanee.



## INTRA-ABDOMINAL INJURIES COMPLICATING OTHER TRAUMA

HENRY T. KIRBY-SMITH, M.D., Sewanee, Tenn.

When one is dealing with, or speaking of, seriously injured persons in civilian life, reference is usually made to injuries resulting from automobile accidents. I do not see many cases with multiple injury other than from automobile accidents. Because of this qualification I should like first to consider briefly what happens in such accidents.

The literature dealing with automobile accidents seems to indicate that about 50 per cent are pedestrian, that is, the patient has been struck by an automobile while walking or standing. In the region in which I live, and I imagine in most nonurban areas, automobile accidents do not ordinarily involve pedestrians. They are the result of two or more cars colliding, of a car running off the road, into a bridge abutment or telephone pole, or of some similar occurrence.

In automobile accidents which do not involve pedestrians there are relatively few cases of abdominal trauma. There are injuries to the head, chest, and extremities, while only rarely is the abdomen involved. I should like to say that I have never yet cured the result of an abdominal injury when there existed, also, multiple severe injuries of other areas of the body. In the cases of automobile accident which I see, if the patient has abdominal injuries, it is usually true that his other injuries are so extensive that his chances of recovery are very slight.

Nearly all abdominal injuries associated with other major trauma are of the non-perforating type, and it is with this type that I shall deal. Perhaps I should note here that the perforating types of trauma are obvious and, if shock and other factors permit, immediate operation is indicated.

In my experience nonperforating abdominal trauma involves most frequently the kidney, spleen, liver, intestine and bladder in the order named.

The correct diagnosis of intra-abdominal injuries in the presence of major injuries to chest, head, and extremities is difficult. The best diagnostic tools are one's own

eyes, ears, and hands. Shock, pain, and tenderness should be carefully observed and changes noted and evaluated. Many times the observation of a change will lead to correct diagnosis. Other things of value are blood counts, urine examination, an X-ray film of the diaphragm in the upright position, and X-ray studies of the spine and pelvis.

Sometimes a needle introduced into the abdomen in one or several areas will show the presence of blood and, in the case of an unconscious patient, will be helpful. All of the factors I have mentioned, pain, shock, tenderness and examination of the urine, should be relied upon greatly in the matter of diagnosis.

As for treatment,—if a diagnosis of a ruptured viscus is made, and the patient is in shock, blood must be replaced rapidly, and the indicated operation undertaken. If the spleen is ruptured, splenectomy is indicated. For a ruptured liver, suture with Gelfoam packing is usually sufficient. A ruptured intestine should be repaired at once. The traumatized pancreas does not necessarily require operation but, if an operation is performed, drainage is usually sufficient.

When there is blood in the urine with some lumbar pain but without evidence of a ruptured urethra or bladder, or an enlarging lumbar mass, the patient may be kept under observation and uneventful recovery will usually occur. If an expanding renal hemorrhage is considered, intravenous pyelograms may be helpful, and exploration followed by suture or nephrectomy is to be considered. Fortunately bladder injuries are not common in trauma to the abdomen. If there is any doubt, the safest procedure is to employ cystograms with one of the aqueous contrast solutions. If rupture is found, suprapubic cystostomy with repair of the bladder and suprapubic drainage is indicated.

In summary, I should like to stress the following:

1. In cases of abdominal trauma complicating other injuries, the necessity of immediate diagnosis and treatment is of paramount importance, and this necessity leads to reliance upon quick and immediate diagnostic procedures.

2. When there are multiple, severe injuries of head, chest, and extremities with involvement of the abdomen also, the prognosis is poor.

3. Repeated personal observations for evidence of trauma, in the presence of other injuries, with a careful note of changes in physical findings, are of value in reaching a correct diagnosis.

CHAIRMAN CARPENTER: We now come to the last presentation on the program proper, a few remarks from Dr. Thomas L. Waring of Memphis on the care of fractures.

## THE DEFINITIVE CARE OF FRACTURES IN PATIENTS OTHERWISE SEVERELY INJURED

THOMAS L. WARING, M.D., Memphis, Tenn.

We are very often led astray by the tragedy of the dangling limb and forget about other injuries which are much more important than one which is so obvious. We must not treat the obvious injury to the detriment of the patient but have to consider the patient as a whole and not one small part. Our primary goal is to save life and, subsequently, limb. The surgeon should be alert to all of the hazards which may involve any and all systems of the body and those conditions which threaten life should be corrected first.

The first thing one must do in the examination of the injured patient is to assure oneself there is adequate respiration. We know if respiration has ceased something must be done for the patient within three minutes or he will die. Therefore, we must start respiratory movements and take care of anything that may be obstructing the airway. Injuries to the chest, producing sucking wounds or paradoxical movements of the chest wall, must be corrected.

The next thing is to stop hemorrhage. There is usually no difficulty in stopping obvious hemorrhage. However, the patient must be examined very carefully for hidden hemorrhage; this may not be apparent immediately, but may quietly continue requiring frequent repeated clinical observation. Frequently, shock has ensued and must be controlled immediately. It is best controlled by whole blood and other measures which Dr. Moore has already outlined.

Finally, comes concern about the "dangling extremity." The use of X-ray for

confirmation of the clinical diagnosis, or for ruling out fracture, should be done after the patient has recovered from shock. His condition should not be further endangered by taking him to the X-ray machine first. The "dangling limb" with obvious fracture, should be immobilized as soon as possible because this may be a contributing factor to the shock. This is particularly true in a simple fracture in which the fracture can be splinted and dealt with after the patient is in good condition.

The compound fracture is more or less of an emergency condition because we know that the time lag between injury and the time of definitive treatment is very important. A time lag of between 6 to 12 hours certainly means contamination, and after 12 hours it certainly means infection. If we treat the patient before 12 hours then, at times in certain types of cases within 24 hours, the primary objective is excision of tissue. After 24 hours, the primary concern is not in excision of tissue but incision. In other words, after that period of time the fracture is infected.

There is considerable controversy as to whether or not compound wounds should be closed, whether or not internal fixation should be used, or whether or not one should repair tendons and nerves in compound wounds. All of this is very controversial. During the war, the Surgeon General, with the advice of his consultants, ordered that no compound wound would be closed, regardless of condition. I think that this was an excellent directive because in

the mass of injuries, such as we had during the war, the patients could not be watched for complications. In civil practice, this has a certain amount of common sense.

If there is any doubt whatsoever, a compound fracture should not be closed. We know from the war experience that compound wounds may be left open for a period of from three to seven days without complication and that secondary closure may be done without fear of complication. I think, speaking from experience, that we should use our judgment as to whether to close the wound or to leave it open.

A tourniquet may be used if necessary to save a patient's life. However, a tourniquet should not be used if it can be avoided and be left on for over an hour. There is considerable controversy as to whether a tourniquet should be used at the time of debridement of compound wounds because one is not able to tell as well whether or not the tissue is viable. It is important to remove all the muscle that is traumatized to the extent that it is avascular. It is surprising how much muscle one can get along without if it has to be removed. Of course, the nerve and blood supply should not be disturbed.

If the bone is protruding through the skin and has been dragged through the mud, dirt or on the highway, it is almost impossible to wash the bone and rid it of all the dirt. Therefore, it will be necessary to sacrifice a certain amount of bone by removing that part which has become contaminated.

In regard to the repair of nerves and tendons, I feel that, unless one can operate on the patient within a reasonable length of time, one should not try to repair them. This can be done at a later date with much better advantage.

## SUMMARY

ROBERT C. ROBERTSON, M.D., Chattanooga, Tenn.

Dr. Carpenter, members of the Panel, Fellows of the College of Surgeons and guests. The principles of treatment of the severely injured patient have been unusually well presented by the panelists. I have long felt that many of these patients are all too frequently victims of too many "do's"

Metallic internal fixation may be used within the first 8 to 12 hours. However, if there is any doubt that the wound is not as clean as it should be, internal fixation should not be used and the wound should not be closed.

Antibiotics should be given in massive doses and continued well past the time when the patient's temperature has reached normal. I believe that penicillin should be given, in doses of 100,000 units or more, every three hours for at least four or five days. The use of local sulfanilamide powder in wounds has been found to be a useless gesture and was abandoned by the armed services. Tetanus antitoxin should be given for a rather mild wound in a dose of 1,500 units. For the more contaminated wound probably twice that much should be given.

If at any time during the recovery period the patient has a rising temperature, the wound should be inspected; otherwise, the wound should not be inspected unless it is absolutely necessary. I believe every time a wound is opened and inspected, a certain amount of contamination is thereby caused.

I would like to further impress this one fact upon you with regard to the wound, namely, that, if you have any misgivings whatsoever about the wound or if there is any doubt that it may become infected, leave it open—do not close it! After three to seven days, you can close the wound and have a live patient and a good limb.

CHAIRMAN CARPENTER: Does anyone have any questions from the floor? The hour is getting late and so I will ask Dr. Robertson of Chattanooga to summarize the panel discussion.

and too few "don'ts." Our panelists have included many well considered "don'ts" together with wisely chosen "do's."

Perhaps we should here consider the magnitude of the problems presented to our profession by the severely injured patient. Many of the wounds received daily on our



highway are not unlike the severe multiple wounds that were seen by most of us during war. The problems presented by the individual patient are similar, but we as individual doctors and as members of hospital staffs do not have the splendid organization of our Armed Forces Medical Corps which began with the aid man at company level and ended in the general hospital in the United States. In the military service, we were only one link in the long and well organized chain of treatment which began shortly after the wounding and ended shortly before discharge from the service. In civilian practice any one of us may be called upon to serve as the several links of the treatment chain. During World Wars I and II United States forces were engaged for a total of 63 combat months. The total battle deaths were 308,759, an average of 4,900 during each month of war. National Safety Council records show that the total accidental deaths from all causes in the United States during the years 1948-52 (1953 figure not yet available) totaled 473,900 or an average of 7,998 for each month of these years. In other words, our civilian accidental deaths in the United States during times of peace are more than 50 per cent greater than our battle deaths during war. The number of injuries resulting in varying degrees of disability is even more staggering. Accident prevention is receiving serious study, in which we as doctors may ably assist through membership in various lay organizations engaged in studying this problem. Most of us, however, may best serve by attempting to meet and treat the injured individual.

Treatment of the seriously injured patient begins with the administration of first aid, usually at the scene of accident. All too often, little or no first aid is given other than placement in an ambulance which then speeds to the nearest hospital with little consideration being given to hemorrhage, shock or splinting of extremities. It is hoped that a plan may be devised whereby ambulance companies and the medical profession may combine their knowledge and skill in such a manner that a higher standard of first aid may be assured. Steps are now being taken towards this end.

Upon reaching an organized hospital, preparation of the patient for the indicated definitive surgery is of first priority. Emphasis was placed by Drs. Moore and Waring upon insuring an adequate airway, the administration of oxygen, the control of shock by means of whole blood transfusion and the relief of pain. It is suggested that the blood hematocrit be routinely taken in all severely injured cases, because the blood count is often times misleading as the result of hemoconcentration. It must also be remembered that during shock, the circulation is sluggish and that the absorption of narcotics is slow unless administered intravenously. A careful record must be kept of all narcotics administered if over-sedation is to be avoided.

If open wounds are present, tetanus antitoxin or booster shots of toxoid should be given, and antibiotics administered prior to surgery.

We must next decide when definitive surgery may be safely performed. If delayed too long, complications arising from injury to a viscus or compound fracture will develop. Experiences in World War II and in Korea indicate that definitive surgery may be performed when the systolic blood pressure is stabilized at 85 mm. of mercury, if the pulse is regular, and the pulse rate is falling, and if adequate blood is given during and following surgery. Unless the administration of blood is continued during and often following surgery, secondary shock may follow.

The question of surgical priorities has been well enumerated and summarized by Dr. Waring. The criteria enumerated by him can only be determined by the careful evaluation of each individual patient. In this evaluation the acumen and skill of the surgeon and his consultants will often be tried to the utmost.

It might be well to emphasize that cultures and antibiotic sensitivity tests must be routine following lavage of all serious penetrating wounds and compound fractures, if subsequent "shotgun therapy" is to be avoided.

In conclusion I wish to thank all of the panelists for their timely and well chosen presentations. The wise conclusions set

forth by each one of them will enable everyone in this audience to meet more adequately the challenges presented by the severely injured patient.

CHAIRMAN CARPENTER: We have had a few questions from the floor and I have turned them over to various panel members for answer. I believe that Dr. Moore has one question.

DR. MOORE: The question is, "Should a Red Cross first aid person apply splints before the patient is moved?"

I think that he certainly should if he knows how to put the splint on. I know that if he knows how to put one on me, I would certainly want him to do that before he moved me. I would not care whether it was a Red Cross person, housewife or a doctor. Sometimes, unfortunately, the doctor seems to know less about putting on a splint than the Red Cross person.

CHAIRMAN CARPENTER: I imagine that answers the question.

Dr. Kirby-Smith.

DR. KIRBY-SMITH: I have a few questions here. The first is "How would you treat massive hemorrhage?" Of course, that depends on what caused it. First of all you would give blood and treat shock. If it were due to a penetrating wound you

would, of course, explore the wound and then you could do whatever was necessary.

The other question is, "How do you manage an acute traumatic abdomen caused by rupture of the pancreas?" I imagine by an actual separation of the part of the pancreas that is separated from another part and which would be apt to involve the breaking of the blood vessel and perhaps severing of the duct. If you knew that was the case, you would want to operate and probably all you would do would be to put a rubber drain down into the area. I don't imagine that you would have much luck in trying to repair a duct in that case. I believe that in the circumstances traumatic in which you do not think there is an actual separation of portions of the pancreas or a physical break in the pancreas you would need to do nothing except probably observe the patient carefully.

CHAIRMAN CARPENTER: Now, are there any further questions? If not, I would like to thank all of these panel members for their fine contributions and also the people on the floor for their questions. You have been a fine audience and as it is now five o'clock, we will declare this meeting adjourned.

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**The QRS Deformity of Myocardial Infarction in the Human Subject. Robert P. Grant and Raymond H. Murray. *Am. J. Med.* 17:587, 1954.**

Few people in recent years have done as much to make the electrophysiology of the heart intelligible to the physician as has Dr. Grant. This paper is another example of his ability to explain the "why" of changes in the electrocardiogram associated with heart disease, and thus to enable the doctor to understand better what is actually going on in the heart.

It is emphasized again that "the electrocardiographic hallmark of infarction is, of course, the Q wave," and that it is the duration of this deflection rather than its depth which is especially important in evaluating its significance. The chief point is that when the tracing is interpreted as a three-dimensional whole, information is often obtained which would have been missed had a series of leads been viewed as more or less unassociated

things unto themselves.

The study described here is an application of the author's well-known mean vector technique, which is described briefly. The area on the body surface where significant Q waves appeared was determined in each of 38 normal subjects and 77 with the QRS deformity of myocardial infarction. From the results a method is described for identifying infarcts from the size and distribution of this area. The older, empirical methods for evaluating Q waves are thus "reformulated" so that more rational interpretations can be made.

One hundred and eighty-seven subjects were studied by comparison of pre- and post-infarction tracings. The results of this study indicate that, from a pattern point of view, a Q wave must be at least 0.04 second in duration to be indicative of myocardial infarction. (Abstracted for the Middle Tennessee Heart Association by Thomas M. Blake, M.D., Nashville, Tenn.)



## STAFF CONFERENCE

### City of Memphis Hospitals\*

#### Amenorrhea

DR. PHIL C. SCHREIER: Dr. Turnbull, will you present the patient's history for discussion today?

DR. FRANK T. TURNBULL: This patient was a 16 year old, nulliparous colored female, who was first seen in the out-patient department on February 11, 1954, because of primary amenorrhea. Past history was essentially negative, except for treatment of acute pelvic inflammatory disease 8 months previously. The physical examination in the clinic revealed a lean individual of small stature with minimal axillary, pubic hair and breast development. There were no abnormalities of bony structure or other body systems. The pelvic examination revealed normal external genitalia, and a hypoplastic cervix and uterus. Ovaries were palpable but were considered to be small.

Laboratory work at this time included a glucose tolerance test which was normal. Basal metabolic rate was +20 on one determination only. Cytologic study of the vaginal mucosa showed dyskeriosis with basal types predominating indicative of low estrogen activity.

On February 25, diethylstilbesterol therapy was instituted, giving 2 mg. three times daily for a period of 21 days, followed by a waiting period of 10 days and then the cycle was to be repeated. On April 8, the patient returned to the clinic and reported that no bleeding had occurred. At this time the dosage was increased to 5 mg. three times daily in the same manner as above. The patient was next seen in the out-patient department on November 4, with the complaint of left lower quadrant pain of approximately two days duration. She was admitted to the John Gaston Hospital for study.

Physical examination on admission to the hospital revealed temperature 98°, pulse 80, respiration 18, blood pressure 126/88. On pelvic examination mild tenderness over the left adnexa was noted and the ovaries were definitely palpable. Again the uterus and cervix were noted to be hypoplastic. Laboratory work in the hospital on admission revealed a packed cell volume of 41 per cent, a negative urinalysis, a 24 hour urinary 17 ketosteroid determination of 5.7 mg. which was considered within normal limits. X-ray examination of the skull revealed a normal sella turcica and calvarium. X-ray of the chest and heart was normal.

Her course of therapy in the hospital consisted

of 1 cc. intramuscular injections of Cyclogesterin consisting of 25,000 units of estron sulfate and 10 mg. of progesterone daily for three days. The patient began spotting 8 to 10 hours before the last dose. She bled slightly for a period of 3 days and then 5 days after the last injection she began a normal flow. Further investigation including culdoscopic examination and dilatation and curettage were deferred at this time.

DR. SCHREIER: I am interested in her age. As a rule, girls this young are not subjected to such a complete study. I wonder why we found it necessary or desirable to hospitalize this young girl.

DR. JOHN Q. ADAMS: The age of 18 years is usually selected arbitrarily to delineate primary amenorrhea from delayed puberty, however, it should be emphasized that in selected cases investigation at an earlier age may be indicated. This patient, because of her build, breast development, and scarcity of pubic hair and axillary hair suggested a diagnosis of delayed puberty.

DR. SCHREIER: Dr. Turner, would you outline your approach to this complex problem of amenorrhea.

DR. HENRY B. TURNER: It has been our experience, Dr. Schreier, that the etiology of amenorrhea can be discovered most easily by placing the individual case in one of the following five categories:—(1) amenorrhea which is secondary to systemic illness; (2) amenorrhea as a result of pregnancy or its complications; (3) amenorrhea the result of local pelvic pathology other than pregnancy; (4) endocrine causes; and (5) amenorrhea resulting from emotional or psychological causes.

DR. B. E. EVERETT: Dr. Schreier, I have a case here which is worthy of discussion as it does exemplify one of the more rare types of secondary amenorrhea of organic origin.

E. G., a 24 year old, colored female, was first seen in the out-patient clinic on May 15, 1953. She had had two pregnancies, having delivered an eight month stillborn in October, 1949, and a three month abortus in 1950. Menarche was at age 16; menses had occurred every 31 days and usually lasted 4 to 5 days. Normal periods had followed each pregnancy.

On admission the patient presented the following symptoms and signs: (1) amenorrhea for the 11 months; (2) enlargement of the clitoris for the past 11 months; (3) increased abdominal hair, growth of a beard, deepening of the voice for the

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past 3 or 4 months; (4) nocturia two or three times nightly and a 10 pound weight gain for the past 3 or 4 months; (5) right lower quadrant pain for 7 days; (6) physical findings of a temperature 99.6°, tenderness in the right lower quadrant, masculine body build and hair distribution, and an enlarged clitoris.

The patient was admitted to the John Gaston Hospital where the following studies were completed. X-ray examination of the skull and abdomen were negative. Urological investigation was negative. A glucose tolerance test showed a slight intolerance to glucose at three hours, the sugar being 212 mg. per cent at two hours and taking three and a half hours to return to normal. The eosinophil count was 190 cells per cu. mm. Twenty-four urinary 17 ketosteroids were 22.6 mg. Electrolyte studies showed an elevated cell sodium and depressed plasma sodium. The patient was treated for pelvic inflammatory disease for a few days after which accurate pelvic evaluation under anesthesia revealed a stony, hard, 3 x 4 x 5 cm. movable, nontender right adnexal mass.

The patient was prepared medically for possible adrenal surgery and a pelvic laparotomy was performed on June 1, 1953. The right ovary was slightly enlarged, firm, nodular, and on cut section revealed grey and yellowish areas. It was removed. The left ovary, normal in size, was sectioned in situ, and was felt to be normal. It was repaired and left in place. Pathological diagnosis was *arrhenoblastoma of the right ovary*.

The patient has now been followed 18 months. The pertinent follow-up findings are as follows: On June 3, 1953, 17 ketosteroid excretion was normal, 13.8 mg. per 24 hours. On the 6th of June, 17 ketosteroids were slightly low, 3.4 mg. On June 9, they were again normal. On June 26, there was one episode of vaginal spotting of blood. On June 29, glucose tolerance test was repeated and found to be normal. An August 18, it was noted in the clinic that the voice was of higher pitch, the facial hair had decreased, but there was a persistence of abdominal hair. On October 14, there was noted to be less abdominal hair but there was no change or diminution in the size of the clitoris. On October 19, 17 ketosteroid determination was repeated and found to be normal. The voice was definitely more feminine in nature, but there was still no change in the size of the clitoris. The patient was last seen on December 20, 1954, approximately 18 months postoperatively. The body build was definitely more feminine, there was no hair on the face, the voice was feminine, menstrual periods were regular, and the clitoris was unchanged.

DR. SCHREIER: Now both of these cases have revealed problems that required rather extensive study. However, it is more commonly found that young girls with amenorrhea do not require such intensive study. It

would be interesting to have some of these types of cases presented in contrast with the ones that we have already heard.

DR. WILLIAM H. WALL: I have such a patient.

This is the history of a 17 year old colored female who presented herself to the out-patient department in early October, 1954, with the complaint of primary amenorrhea and pain in the right lower quadrant over a period of one year. Her form was definitely feminine in nature, breast development was normal, and the pubic hair distribution was feminine in character. The external examination of the vulva appeared normal. However, on attempt to do vaginal examination, adhesions between the labia minora were encountered and there was some bleeding at this point. Further attempts to do a vaginal examination at this time was abandoned. On rectal examination it was felt that the cervix and uterine fundus were absent.

She returned again to the out-patient clinic in two weeks and at this time it was noted that a small dimple could be observed at the area of the vaginal orifice. Rectal examination again gave the impression that she had no cervix or uterus. It was felt that in order to completely examine this patient it would be necessary to hospitalize her and do an examination under anesthesia. Subsequently the patient was admitted to the hospital. It was observed that in addition to the previously described pathology a mass which did not descend with respiration was felt in the right upper quadrant. The patient was taken to the operating room and anesthetized. A thick membranous covering closing the area of the vaginal orifice just posterior to the hymenal ring was noted. No attempt was made to invade this membranous covering. On rectal examination under anesthesia it could definitely be determined that there was no cervix or uterus. There were no palpable ovaries on either side but it was felt that the patient obviously did have ovarian function. The patient subsequently had a urological investigation consisting of intravenous pyelography, which showed a nonfunctioning kidney on the left side. Retrograde studies showed absence of the left ureter and it was felt that this picture radiologically represented a congenital absence of the left kidney and ureter. The right kidney showed a compensatory hypertrophy. The patient was discharged from the hospital to await plastic reconstruction of her vagina at a later date.

DR. SCHREIER: Dr. Turner, it would be worth while for you to briefly mention the case you discussed with me this morning.

DR. TURNER: The case under discussion Dr. Schreier, as you will recall, can be summarized as follows.

The patient is a 20 year old student nurse who weighed approximately 135 pounds when she en-

tered training two years ago. During the first year that she was at the hospital she gained approximately 30 pounds fairly rapidly, as I recall. During this time her menstrual periods which were at first normal and of 4 to 5 days duration became progressively less regular and more scant. When first seen the patient weighed 165 pounds, she menstruated once every 2 to 3 months, and reported that the menstrual flow was extremely light and lasted only a day or two. Pelvic examination was entirely normal and because of the normal general appearance of the patient it was deemed unnecessary to carry out further metabolic studies because it was our belief that this case represented one frequently seen in the young, otherwise normal female, namely, that of a metabolic disturbance secondary to rapid weight gain and obesity.

Therefore, no medication was prescribed, the patient was placed on a reduced diet and promptly lost 15 pounds. She reported that during this time the menstrual cycle became more regular. She menstruated at 28 to 30 day intervals and the flow although not back to its normal duration was slightly heavier than that previously noted. She is being carried on this same reducing diet at the present time and we anticipate that her menstrual disfunction will correct itself without functional medication.

DR. SCHREIER: Now we have quite an interesting cross section of the problem of amenorrhea. Of course, it's true that we have not brought to the attention of the group all the possibilities, but this would represent a fair inventory of the more common and some of the unusual causes.

DR. ADAMS: I would like to bring to mind a patient who together with case number 3 illustrates very nicely the importance of pelvic examination in patients with amenorrhea.

She was an 18 year old, white female, who presented herself as a private patient with a history of no menstrual function. She had never menstruated but had experienced what she described as heavy sensations in her lower abdomen. She had been seen by three physicians previously who had given her hormonal therapy without examination.

Examination on her initial visit revealed a congenital absence of the vagina with a rudimentary uterus. Ovarian function was apparently normal as she had adequate secondary sexual characteristics. The point is this, had this patient been examined when her first complaints were noted she would not have received hormonal therapy for a condition in which no results could be expected.

DR. SCHREIER: Most of the time amenorrhea can be relieved as Dr. Turner has

explained in this simple case by some regulation of the general welfare and general hygiene, such as a reduction diet in those who are overweight or a rehabilitation diet in those who are under par. However, when the problem is approached on a simple basis such as has been outlined, or even the use of some type of endocrine therapy and there is no response it then becomes necessary to regard the problem as one of a more complex nature. And from that point on more intense studies should be made so as not to overlook the underlying organic or extreme type of physiologic disturbance as revealed in some of the cases presented, particularly in the one of arrhenoblastoma where a very well defined tumor was found and removed with excellent results. Probably a lesson that this conference can teach us is that the first thing to do when presented with this symptom is a thorough physical examination, which of course is a universal rule applying to all medical problems. From then on you outline your studies, observation and therapy.

DR. TURNBULL: Dr. Schreier, in the absence of positive findings on physical examination, what would you consider a proper line of investigation of the more simple and perhaps complex problems of amenorrhea? What have our experiences been here in that regard?

DR. SCHREIER: I believe that your question could probably be better answered from the standpoint of private practice rather than in our type of practice in the outpatient department. In order to get a varied viewpoint of what one does in private practice I am going to ask others in this group to comment.

DR. EVERETT: Dr. Schreier, I agree thoroughly that the nature of the work-up, and its length depends entirely upon the nature of the case and, as we have seen from the varied cases today, some require an intensive work-up and some only a minimal examination. It is certainly not always feasible or practical in private practice to do a complete work-up on every patient who presents herself with this problem. I would like to get the general views of the discussants here as to what they consider a minimal work-up on a patient who presents no



general abnormalities on physical examination, no evidence of malnutrition, and no pelvic masses.

DR. SCHREIER: After physical examination is completed a metabolism test is sometimes done and sometimes omitted. I observe that many of us are inclined to give thyroid in an empirical manner in the problem of endocrine or functional amenorrhea. To be sure, this is not accepted by all. Clinical experience, though, proves to many that the use of thyroid is of either good psychological value or of genuine therapeutic value.

Another point is the blood count. Naturally, if the patient is anemic her blood count should be brought up to a normal level. Just as the weight is to be regulated, so is the blood count. Then again, another thought comes to my mind; what about vitamins in these conditions? Do they play an important role? Of course, to get into debate as to the role of vitamins in modern medicine would carry us on for many, many hours. However, a combination of vitamins and iron is of good general therapy and I employ it frequently along with small doses of thyroid averaging from one to two grains a day watching the patient's response. Dr. Turner, I can see that you are anxious to present some of your experiences on the basis of treating these office patients.

DR. TURNER: Dr. Schreier, Dr. Everett has asked the question, what is the minimal work-up required in a patient who is found to be physically normal and in whom routine urinalysis and complete blood count is within normal limits? I believe that it might be said that there are three tests which every physician can employ regardless of his location or situation.

The first test that can be employed is the basal metabolic rate. If this is found abnormally low I would concur with you that

thyroid therapy is indicated. The second test, which can be carried out by the patient herself, is the use of basal temperature charts. This will indicate to the physician if pituitary and ovarian function is normal. If she shows evidence of ovulation on the temperature chart it can be concluded that the pituitary gonadotropins are probably at normal levels and that the ovary is probably responding to their stimulation. Finally, to test the endometrium itself as to its responsiveness the physician can use cyclic hormonal therapy after the technic of Hamlin to verify the presence or absence of a functioning endometrium. With these three laboratory aids, therefore, I believe that the majority of cases of amenorrhea can be properly classified. I might add in conclusion that there is one other test which might be kept in mind and occasionally relied upon, namely, the hormonal test for pregnancy.

DR. ADAMS: Dr. Schreier, for those few patients who do not fall in the above category and who apparently have some endocrinological disturbance I believe that they should be worked up in a center where laboratory facilities are available. Such studies which are usually done include 17 ketosteroid, blood corticoid, and urinary gonadotropin determinations.

DR. SCHREIER: We see, therefore, that the study of amenorrhea can be a progressive process starting with the simple measures and as the symptoms persist and fail to respond to what we think is adequate therapy we move on into the sphere of intensive investigation reaching the research level. The patient should not be given the final denial of the opportunity to menstruate until such exhaustive studies have been made.



## CLINICOPATHOLOGIC CONFERENCE

### City of Memphis Hospitals\*

#### Hepatic Duct Carcinoma

Robert A. Crocker, M.D.

This 67 year old white male, a retired janitor, was admitted to the John Gaston Hospital for the first time on February 27 with the chief complaint of yellow jaundice of six weeks duration.

The patient stated that he was well until about the fifteenth of January when he first noticed yellow discoloration of his skin and sclerae and coincidentally felt a non-tender "lump" in his right upper abdomen. About two weeks later he began to vomit 10 to 15 minutes after eating, but in time found that if he avoided meat and ate only light foods he would not vomit. For three to five days before admission he had had a sharp, sticking, needle-like pain just above the umbilicus, radiating through to the back. The pain was intermittent, lasting only a few minutes at a time. He had lost about 25 pounds, although he denied loss of appetite. His stools had been very light in color and his urine dark, sometimes as dark as Coca-Cola. He had had no itching and had not seen any bile in vomitus.

Review of systems was non-contributory. He had had no previous serious illness, no operations, nor previous episodes of jaundice or abdominal pain.

**Physical examination:** T. 97.4, P. 82, R. 20, B.P. 150/80. The general appearance was that of a thin, deeply jaundiced elderly man in no acute distress. The head, eyes, ears, nose and throat were not remarkable except for icterus or sclerae and mucous membranes. Lungs were clear to auscultation and percussion. Heart was not enlarged, nor were there murmurs or arrhythmias. There was a fullness in the right upper abdomen without any muscle spasm. The liver was enlarged, non-tender, questionably nodular, 4 finger-breadths below the left costal margin, to the umbilicus in the midline and 3 finger-breadths below the left costal margin. Neither the spleen nor other viscera or masses palpable. Rectal examination was negative, the feces on the examining glove were clay-colored.

**Laboratory Data:** Hematocrit, 40, WBC 9,000, Hgb. 12.5 Gm., RBC 4,000,000. Plasma was very icteric. Differential: segs. 89%, lymphs 6%, eos 2%, mono 3%; thrombocytes adequate. Sed. rate 55 mm./hr.; 1.8 max. fall/min. Urine: black color, sp. gr. 1.020, sugar and protein negative, rare RBC, 1-2 WBC, 0-1 casts, foam test positive. Prothrombin time was normal. Serum bilirubin was 39.8 mg. total. Total proteins 5.6 with albumin 3.6, globulin 2.0 Gm. Cephalin flocculation 3+ in

24 hours. Alkaline phosphatase 19.2 units. Inorganic phosphorus 3.1. Urine urobilinogen positive only in the undiluted specimen. Four plus Harrison Spot Test.

Chest X-ray: Heart normal, aorta tortuous with minimal arch calcification, the lungs show generalized emphysema with some scattered fibrosis. Abdomen: No calculus; some calcification in iliac vessels. Upper GI series revealed no abnormality of esophagus, stomach and duodenum.

On March 5 *exploratory laparotomy* revealed approximately 1,000 cc. of clear, bile-stained fluid in the peritoneal cavity; "the liver was enlarged down almost to the umbilicus with a dusty, dark color with small white spots over it, and upon cut section it showed a minute nutmeg appearance. The gallbladder was completely collapsed and the common bile duct measured approximately 4-5 mm. in diameter and was collapsed. There was no palpable disease in the head of the pancreas, nor could any stones be palpated proximally toward the port of the liver. There were numerous nodes scattered around the duodenum measuring up to 1 cm. in diameter. Some of these nodes could be palpated along the common bile duct and the cystic duct. However, these nodes were soft in consistency and did not feel like carcinoma."

The pathologic diagnosis on the liver biopsy was "acute and chronic obstructive hepatitis (possible intrahepatic) with severe focal central necrosis."

The early postoperative course was uneventful until March 14 when he began to have vomiting. Serum bilirubin was 34.3 mg. total and cholesterol 460 mg. at this time. Feces were described as slightly brown in color. Large amounts of bile-stained fluid drained from the stab wound continuously and later from the main operative wound. Vomiting became a major problem, creating secondary difficulties in fluid and electrolyte balance, details of which are not necessary to document here. Because of emesis of even gastric tube feedings, it was attempted to pass a Miller-Abbott tube, but the tube could never be gotten past the pylorus. Terminally, a tracheotomy was required to aspirate profuse tracheobronchial secretions. For the last 40 hours the blood pressure was maintained only by the use of constant intravenous drip of vasopressor agents.

The patient expired on April 5 following the passage of an estimated 300 cc. of bright blood from the mouth and tracheotomy. He was cachectic, deeply yellow in color with several decubitus ulcerations.

**DR. ROBERT MILES:** I am sure it must be a pleasure for the internist and pathologist to observe the gyrations of a surgeon in his feeble attempt at diagnosis in a case such as this. It's clear that this is not the run of the mill case of obstructive jaundice due to common duct stone or carcinoma of the head of the pancreas,—that would be too easy.

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Let's consider the case from the standpoint of the surgeon in its preoperative, operative and postoperative phases.

Prior to operation, the chief consideration would be whether the jaundice is hepatocellular or obstructive in nature and, consequently, whether or not operation is indicated. At first glance, the history, physical examination and laboratory findings indicate jaundice of an obstructive (extrahepatic) bile duct nature, i.e., dark urine, clay colored stools, upper abdominal mass, increased alkaline phosphatase, and the urinary urobilinogen determination positive only in the undiluted specimen. However, upon consideration of the duration of the jaundice and evidence of impaired liver function, the decision as to which type jaundice we are dealing with, becomes more difficult.

We all know that the liver function tests are notoriously inadequate to absolutely distinguish these, because each type may cause pathologic changes resulting in similar alterations of the various function tests. For example, in obstructive jaundice of long duration, there is secondary damage to the hepatic cells with the result that certain tests become positive which are usually thought to be diagnostic of hepatocellular jaundice, such as the cephalin flocculation test in this case; conversely, in the hepatocellular type, the small biliary radicals within the liver may become obstructed by associated inflammatory changes giving rise to function test results suggestive of obstructive jaundice, i.e., absence of urinary urobilinogen. In like manner the symptomatology may be misleading. Clay colored stools might be considered presumptive evidence of obstructive jaundice, when they actually may be secondary to the hepatocellular type.

The increased alkaline phosphatase determination especially attracts attention in that it is increased in spite of evidence of serious impairment of liver function. Inasmuch as most of the alkaline phosphatase is thought to be formed in the hepatic cells and excreted in the bile, the increased serum value in this case would suggest obstruction of the biliary ducts, particularly when one consid-

ers the scant urinary urobilinogen and clinical evidence similarly suggested.

The surgeon, considering these factors, probably arrived at a preoperative diagnosis of obstructive jaundice with neoplastic or calculus obstruction of the extrahepatic bile ducts as the most likely etiological possibilities. The age of the patient, the absence of previous attacks, the appearance of a nontender epigastric mass, coexistent with the gradual development of painless (for five and a half weeks) jaundice, weight loss, and the absence of fever and leukocytosis, would be in favor of neoplasm as the obstructing agent. The surgeon probably considered the head of the pancreas the most likely origin of the neoplasm rather than the ampulla of Vater or elsewhere in the biliary tract on the basis of lack of symptoms suggestive of ampullary carcinoma such as febrile episodes and tarry stools. Less likely, the surgeon probably thought of carcinoma of the gallbladder, hepatoma, and cholangioma of the intrahepatic bile ducts.

One would expect that the surgeon may have been surprised at the operative findings,—no carcinoma of the pancreas, ampulla, gallbladder, common ducts and no stones, not even dilatation of the biliary tract or gallbladder, on the contrary the latter were collapsed. Evidently, it was felt that the jaundice was secondary to hepatitis or some other type of intrinsic hepatic lesion for a liver biopsy was taken and the abdomen was closed.

The collapsed gallbladder and common bile duct were probably of the greatest importance indicating complete obstruction of the biliary tract at a higher level. No mention was made of exploration of the region of the junction of the right and left hepatic ducts although enlarged lymph nodes along the common bile duct were described but not biopsied. The "nutmeg" liver would also be consistent with obstruction of the bile duct at this point as is the pathologic diagnosis of "acute and chronic obstructive hepatitis with severe focal central necrosis" which is the picture generally seen with obstructive jaundice of long duration.

The postoperative course characterized by the drainage of large amounts of bile stained fluid from the wound with vomiting and



irreparable fluid and electrolyte imbalance would also be consistent with what I believe to be the most probable diagnosis. Carcinoma arising at or close to the junction of the right and left hepatic ducts producing obstruction of both. However, such complications are to be expected when liver biopsy is done in the presence of obstructive jaundice if the obstruction is not relieved. The long standing increased pressure of the bile causes dilatation of the entire biliary tree down to the finest canaliculi in addition to the necrotic changes in the adjacent hepatic cells, caused both by pressure and the necrotizing action of bile salts. When such a liver is biopsied without relief of the obstruction, bile peritonitis and/or some type of biliary fistula (cutaneous in this case) is the almost inevitable result. For this reason, we believe blind needle biopsy of the liver to be particularly hazardous and contraindicated when jaundice may be obstructive in nature.

The terminal shock in this case was probably due to a combination of factors such as dehydration, hypocalcemia, hyponatremia, hypoproteinemia and cholemia. The hematemesis was probably related to hypoprothrombinemia secondary to the markedly impaired function of the liver.

DR. ROBERT CROCKER: We must extend our congratulations to Dr. Miles for his excellent discussion and for his most astute diagnosis.

*Gross Findings:* At the time of autopsy, which was performed approximately 24 hours after death, the body was that of an elderly white male with marked icterus. The body weight was 115 pounds and the length was 164 centimeters. The operative incision was partly healed, there were two small draining wounds in the right upper quadrant of the abdomen. There were 500 ml. of clear yellow fluid in the left pleural space, 200 in the right and 500 in the peritoneal cavity. There were bile-stained fibrous adhesions in the region of the exploration between the liver and the transverse colon.

The heart weight was 400 grams with preponderance of the left ventricle and no significant abnormalities.

The lungs were extremely heavy, the

weights being 1,080 grams on the right and 935 grams on the left. The parenchyma was red with several areas of greyish firmness and granularity in the lower lobes which were interpreted as bronchopneumonia. The cut surface of the remainder of the lung exuded large quantities of pink fluid. The bronchial mucosa was slightly red and granular. The vessels were usual.

The mucosal surfaces of the alimentary canal were congested, especially the stomach. There were two shallow wide-mouthed diverticula of the duodenum and multiple saccular diverticula of the sigmoid colon.

The extrahepatic biliary system was completely collapsed. The gallbladder contained approximately 2 ml. of pale yellow-green mucoid fluid. There were no stones or other masses in the gallbladder, any of the extra hepatic bile ducts or the ampulla of Vater. At the junction between the main intrahepatic duct from the right and left lobes of the liver there was a firm grey-white mass which seemed to be more on the left than the right side. (Figure 1.) The mass

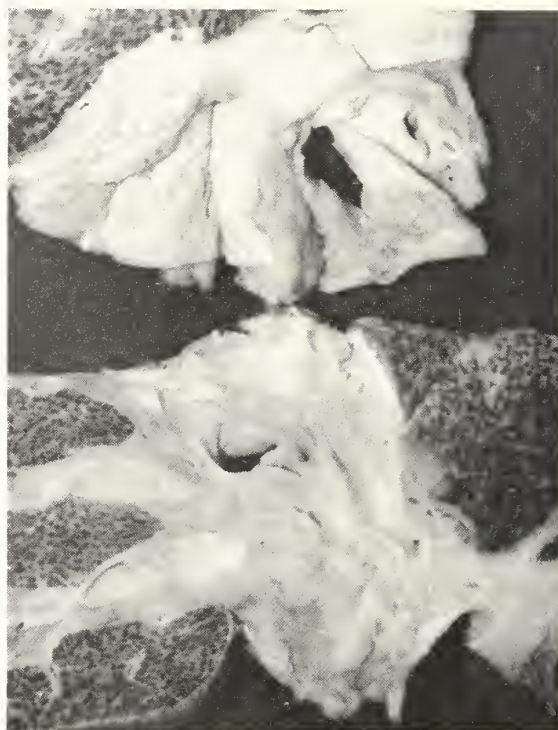


FIGURE 1

had completely occluded the lumen of the left hepatic duct and practically closed the right. There were small irregular projec-



tions of the mass into the adjacent liver tissue. The liver was enlarged to 1,800 grams and was dark green with very prominent lobular markings and small fairly regular nodules scattered throughout it. The left lobe of the liver was more involved in this change than the right. There was marked dilatation of the bile duct tributaries.

The kidneys were enlarged to 260 grams on the right and 220 grams on the left. The capsule was moderately adherent and there was fine granularity of the cortical surface. The medullary striations were prominent and were stained dark green in several instances. There were no other significant renal abnormalities.

The prostate was slightly enlarged and there were a few discrete yellow nodules in the posterior lobes.

The weight of the spleen was 305 grams, the pulp was firm red-purple with prominent Malpighian corpuscles.

*Microscopic Findings:* The nodule in the hepatic duct was composed of very regular columnar cells which had dark slightly large nuclei with only slight pleomorphism. A longitudinal section of the hepatic duct shows these cells to be arising from the lining of the duct proper. There is complete occlusion of the duct. The tumor cells extended into the surrounding liver tissue. A small nerve adjacent to the tumor tissue was invaded by the tumor. (Figure 2.) Almost

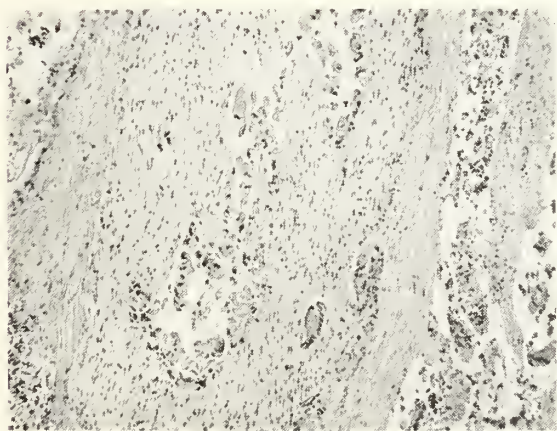


FIGURE 2

all of the substance of the enlarged node behind the bile duct was tissue similar to that in the hepatic duct.

The liver biopsy taken at the time of

exploration was a fairly typical picture of obstructive hepatic changes. The small bile radicals were dilated and filled with inspissated bile and there were bile casts in the canaliculi. A few widely dilated bile filled spaces or "lakes" were in the liver tissue. There were a few lymphocytes in the tissue and moderate periportal fibrosis.

The microscopic changes in the liver at the time of death are much more pronounced than those seen in the biopsy. There is marked fibrosis in the portal fields with atrophy of the adjacent liver cells and numerous large bile lakes. (Figure 3.)

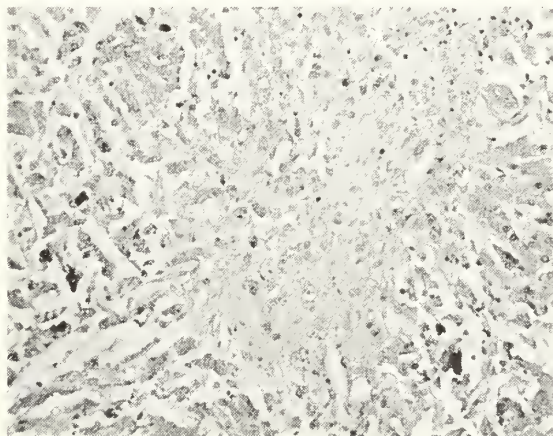


FIGURE 3

The lungs were congested and almost all of the alveoli were filled with eosinophilic debris. There were numerous neutrophils in the alveoli especially in the sections of the lower lobes of both lungs.

There was slight arteriolar nephrosclerosis and numerous tubules contained bile casts. A very small extremely well differentiated carcinoma was found in the posterior lobes of the prostate gland. The spleen was markedly congested. One of the wide-mouthed diverticula of the duodenum contained a small area of squamous metaplasia.

*Summary:* In summary, this case is one of a tumor arising in the left hepatic duct with obstruction of that duct and resulting in severe biliary cirrhosis. Although the mass was small and microscopically the tumor was well differentiated, there were lymph node metastases and easily demonstrated nerve invasion. The nerve invasion is the most likely explanation for the abdominal pain of the patient. There was also

a severe congestion of the spleen associated with the cirrhosis of the liver.

Although the tumor, because of location rather than size, had produced very marked obstructive changes in the liver, the terminal episode in this patient was the severe pulmonary edema and bronchopneumonia.

Carcinoma of the extrahepatic bile ducts is a fairly rare tumor. Neibling et al.<sup>1</sup> report only 90 cases of malignancies of this region in the Mayo Clinic material from 1907-1946, of these cases there were only 23 in the hepatic ducts. They found that the tumor was more frequent in males than females and that it tended to occur in the age group from 50 to 70 years.

These tumors tend to be well differenti-

ated as was this case. There may be early metastases which is a factor in the poor cure rate of this condition. Martin and Page<sup>2</sup> postulate four possible origins for this tumor: papilloma; effects of trauma of stones; ulceration of the mucosa of the ducts; and the possibility of the carcinogenic action of bile or bile salts. They also estimate that carcinoma of the extrahepatic ducts is found in about 0.5 per cent of all biliary surgery.

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## President's Letter



DR. THOMPSON

What are others saying about it? We have recently been interested in what doctors are saying of current problems of the medical profession.

Dr. G. V. Coughlan of Iowa recently said, "A physician should

strive for a good life, not a good living, and he should adhere to the highest principles as to fees. All his professional income should come from those he treats. . . . All financial dealings with patients should be so open and fair as to preclude any suspicion of unethical practice."

Then we were intrigued by the letter to all local surgeons of the V.F.W. in which Dr. Joseph M. George, Jr., said, "As Post Surgeon, you have an excellent opportunity to examine and study the veteran rehabilitation problems that confront your Post Service Officer. You will learn from his files that the V.F.W. is not asking for compensation or pension benefits for able-bodied veterans, or non-service connected disabled veterans who are financially able to afford private medical care. These objectives are truly in harmony with basic American Medical Association principles. . . . You can build good will for the A.M.A. among veterans when you help them to understand that the A.M.A. is not opposed to adequate care for truly deserving veterans whether service-connected or non-service connected. You can build good will for the V.F.W. by helping other A.M.A. members understand that the V.F.W. does not ask government benefits for non-service connected veterans who clearly possess the personal means to obtain through private channels the care they may require."

Hats off to Dr. George.

And Dr. Bruce R. Hinson, President of the Oklahoma Medical Association, writes: "Desegregation is part of the new world social

order and of all social reforms that have taken place in the past 30 years, desegregation will probably result in the greatest benefits. It is certainly Christian in principle and is definitely an advance in our ethical and moral thinking."

And I especially like the motives that caused Dr. Charles C. Cooper to write in *Minnesota Medicine*: "We all live together in this House of Medicine. Where this house is dirty, let's flush it out! If parts of it are rotten, then tear them down and build over! But sensational, iconoclastic and misinterpreted articles in the lay press hurt us all. We can only hope that important and influential men within the home will see this in time and do enough."

And what about public relations? Dr. W. A. Wright of the A.M.A. Council of Rural Health wrote: "Most people in the United States prefer to do what is right. The matter then is for them to be aware of what is right. Hence, those who set out to inform through the many available avenues of publicity have a real responsibility for accuracy which unfortunately is not always evident in the finished product. Doctors must be particularly careful that in any program of public education their information is in accord with the facts."

Here then are what others say about those basic principles which motivate our actions as doctors. We can end this get together in no better way than to quote from the inaugural address of Walter B. Martin, M.D., President of the American Medical Association, when he said, "We should above all look to our own house and see that it is in order. As practitioners of medicine we have dedicated ourselves to the service of humanity. We should remember this at all times and in our private and public acts, hold that thought as a torch before us."

A stylized, handwritten signature in dark ink, appearing to read "J. Thompson".



# THE JOURNAL

OF THE  
TENNESSEE STATE MEDICAL ASSOCIATION

Published Monthly

Devoted to the Interests of the Medical Profession of  
Tennessee

Office of Publication, 321-325 Doctors Building, Nashville,  
Tenn.

Acceptance for mailing at special rate of postage provided  
for in Section 1103, Act of October 3, 1917,  
authorized July 15, 1932.

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giving credit to this publication.

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Address Public Service problems to Ed Bridges.

R. H. KAMPMEIER, M.D., Editor and Secretary  
Vanderbilt University Hospital, Nashville

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FEBRUARY, 1955

## EDITORIAL

### INTESTINAL PARASITISM

The last twenty to thirty years has altered our thinking a great deal on this subject. We have come to think of intestinal parasitism along with pneumococcal pneumonia, typhoid fever and syphilis as something of the past. The danger of such thinking is that the fact of "out of sight, out of mind" begins to influence one in differential diagnosis. Certainly this is true among medical students and recent graduates. Therefore it may be well to remind ourselves that intestinal parasitism still exists in certain areas and might influence the health of our patients.

Recently, an interesting report was published by Young<sup>1</sup> on the incidence of intestinal parasites in school children, in Cumberland County, made during 1949-1950. Satisfactory stool specimens were obtained to the number of 2,908 of 4,415 school children in the County. The examinations were done in the laboratories of the Ten-

nessee Department of Public Health. The salt flotation method was used for the demonstration of ova, and the zinc sulphate flotation method and modified Lugol's solution in the search for protozoan parasites. Only one specimen per pupil was examined. The sanitarian of the County Health Department visited the homes from which the children came who were found infected with hookworm. Toilet facilities were nonexistent in these homes.

Fortunately the figures of the present day study may be compared with two previous ones. In 1912, the Rockefeller Sanitary Commission, in sampling Cumberland County, found an incidence of hookworm in 61 per cent of children. In the 1929-31 study of Keller, Leathers and Bishop this infection incidence had dropped to 21.4 per cent. The study of 1949-50 showed essentially an unchanged incidence, 19.6 per cent, though a more sensitive flotation technic may have uncovered light infestation of a degree missed in the 1929-31 study. *Ascaris* or roundworm infestation has dropped from 31.3 per cent of the 1929-31 study to 6 per cent in the present study, which is probably too low since infertile *ascaris* eggs do not float in the concentration method presently used. There has been some drop in infestation with the less common parasites as shown in the present study. *Ameba histolytica* was found in 3 per cent of the stools. In the 379 high school students examined the incidence of hookworm was 9.5 per cent, a lesser incidence probably due to more shoes being worn as children grew up, better hygienic practices and fewer pupils from the poorer families.

The 617 children having hookworm ova in the stools represented 477 families, 13.3 per cent of these had no toilet facilities. Three schools had no toilet facilities, the incidence of hookworm ova from children in them was 30, 32.4 and 25 per cent. By contrast there was almost complete absence of findings in specimens from children living in a government-sponsored housing project that required the building of a sanitary privy before the building of a house. Likewise the school children from the school in the county seat, which had modern sanitation, were free of infestation. It must be

<sup>1</sup>Young, M. M.: Report of a Survey for Intestinal Parasites in School Children in a Rural Mountain County in Tennessee, South M. J. 48:46, 1955.

remembered however that even though sanitary toilet facilities are provided, unless treatment of the patients is carried out, the reservoirs of infestation persist.

All the children in the survey found to be infested with hookworms were treated with tetrachlorethylene. A recheck of stools in 188 showed a cure rate of 50 per cent. The teachers reported improvement in these children both physically and mentally.

Though an incidence of only 3 per cent of amebiasis was found in the survey, it must be realized that a single examination will pick up only one-third to a half of the carriers. Practically all cases appeared in children who used an open water supply, such as springs. Again though a history of symptomatology was not searched for in the "ameba carriers," it should be stressed that a high percentage of "carriers" have recurrent gastro-intestinal symptoms.

Infestation with *Giardia lamblia* was found in 9.6 per cent of children surveyed,—similar to the 10 per cent of population groups in Memphis and elsewhere. Though there has been disagreement as to the pathogenicity of this organism throughout the year, Young feels that upper abdominal cramping, flatulence, nausea and diarrhea may be ascribed to this parasite. (Atabrine seems to provide efficacious treatment.)

Parasitic infestation thus still remains a public health problem as well as a potential factor in personal health in certain areas of the State. The Cumberland Plateau and the eastern border strip, the Unaka Mountain Range, offer the sandy loam so favorable to the development of the hookworm larvae. Doctors should keep in mind the systemic effects of hookworm infestation. Amebiasis is found in fair incidence throughout the State and will at times account for indefinite gastro-intestinal complaints. Those who have had experience with amebiasis think in such terms as well as in overt dysentery.

R. H. K.



#### MALPRACTICE SUITS

The rising premiums for malpractice insurance continue and there has been at the same time a decrease in the number of insurance carriers who will offer this coverage. No physician can brush off the matter

as one of little concern to him. Freedom from suits or threat of suits in the past does not confer immunity from such action. The problem is one which touches every doctor who is advising or treating a patient.

Several factors are in operation to account for the increasing incidence of malpractice suits. No doubt the psychological outlook,—a sign of the times,—that many of the population are owed something for nothing is a factor. This common attitude to get anything one can for free, by hook or crook, represents a progressive moral deterioration of the populace. Another factor is probably an increasing tendency to make big business "pay,"—big business here being the insurance company which pays the judgment. No doubt this represents the attitude of many on the juries which give verdicts for the plaintiff. The sensational magazine articles, of the type entitled "Some Doctors Ought to Be in Jail," probably color the reactions of some jurymen. Finally, the desire of many defendants "to settle out of court" to avoid publicity influences lawyers to take some cases for malpractice suits, which they might not otherwise take. Undoubtedly attorneys would not take some cases of uncertain justification if they knew they would have to fight them out in court.

It is the unwillingness of doctors to fight out the malpractice suit which is the one factor doctors can control. A fight in the majority of cases would make attorneys eye proposed suits with a lot more caution, and this alone might break the back of this growing threat to practice. One state society at least has undertaken to control this factor. The Colorado State Medical Society put into effect one year ago certain rules and regulations concerning malpractice claims and suits.

The Medicolegal Committee of the Colorado State Society set up under the Constitution has the power to make rules for the investigation of claims or suits against members of the Society. The Committee may delegate its authority to referees it names in any component society. The rules provide that any member of the Society sued or threatened with a suit shall fill out special blanks and mail them to the Execu-



tive Secretary. If he fails to do so within ten days he forfeits aid from the Medico-legal Committee. Furthermore, if any member learns of a threatened suit against a member of the profession it is his duty to report it at once to the Executive Secretary or to the Chairman of the Medicolegal Committee. Also any member of the Society must, if summoned, appear before the Committee to give whatever knowledge he may have of the case under question.

In addition, any member of the Society who plans to aid in the prosecution of the suit must notify the Medicolegal Committee and state his reasons. No member of the Society may make a charge or receive compensation for services in a malpractice suit unless consent is given by the Committee. And most important, "*no member of the Society may compromise or settle any malpractice claim or suit without the consent in writing of the Medicolegal Committee, except it be upon the advice and with the consent of his insurance carrier.*" It is also provided that the Committee must be notified at once of the disposition of the claim or suit. The Medicolegal Committee has the right to appoint any member of the Society to aid the Committee.

It is stated specifically that the Committee of the Colorado State Medical Society will not give aid in any criminal action nor if the defendant has not acted in an ethical manner. It is the policy that the Committee will "act in all matters with due regard to the principle that the welfare of the patient is of first importance." Therefore any member of the Society may act in any malpractice suit "as his conscience and judgment may dictate." However, he must report his stand in advance to the Committee. Any member who does not conform to the rules is subject to the action of the judicial bodies of the component societies or of the State Society.

Your editor did not search into the question of how many state societies have such or similar rules, or what they may be. It seems sufficient at this time to indicate that it may be proper for a medical society to set up rules which are for the general good of the profession and even of the public.

R. H. K.

## Special Item

### "The Public Welfare Requiring It . . ."

*The Act for the Hospitalization of the Medically Indigent stands foremost in current legislation in the eyes of the medical profession. It sponsored the bill, had the satisfaction of seeing it placed on the statute books, and now wishes to see it implemented with funds. A remarkably large group of citizens back us through potent organizations.—Editor.*

The phrase above must appear at the end of every bill introduced in the Tennessee General Assembly. Of course, the "Public Welfare" certainly does not require the passage of many bills introduced in the legislature. However, there is no doubt in anybody's mind that the "Hospital Service for the Indigent Act" is the highest form of State service to humanity. It would provide free hospitalization, plus free medical and surgical treatment, for every medically-indigent Tennessean. It would—that is—if we could obtain an adequate appropriation to finance this State-County program of medical care.

So far, this program has been pushed mainly by the Tennessee State Medical Association and we certainly have no axe to grind. The 2,300 members of the TSMA have pledged themselves, under the law enacted in 1953, to treat and operate on hospitalized indigents at no cost whatever to the State, any county or any patient. However, it is time that the Governor and members of the Legislature know that many other organizations are interested in this program. So, on January 12, at the Hermitage Hotel in Nashville, a dozen powerful statewide organizations formed a "People's Lobby" to press for a biennial appropriation of \$1,600,000.00. You may be surprised to read the list of organizations which never before have worked together on medical care problems. They are as follows:

The Tennessee Federation of Labor (AFL)  
The Tennessee Congress of Industrial Organization (CIO)

The United Mine Workers of America (unaffiliated)

The Big Four Brotherhood of Railway Trainmen



The Tennessee Farm Bureau Federation  
The Tennessee Congress of Parents and Teachers

The Tennessee Society of Physiotherapists

The Tennessee Society of Psychologists

The Tennessee Hospital Association

The Tennessee Dental Association

The American Society of Social Workers

The Tennessee State Medical Association

Dr. L. W. Edwards, Chairman of the Public Service Committee of TSMA, conducted the first conference of this new "People's Lobby." Speakers were Mr. Lee Sanders, President of the Nashville Trades and Labor Council; Mr. K. C. Dodson, an executive of the Tennessee Farm Bureau Federation, representing President Tom Hitch; and Mr. Henry Miller, Executive Secretary of the Tennessee Hospital Association.

Special talks on the need for this legislation, with case histories to illustrate this need, were given by Mrs. Elizabeth Forester and Miss Jo Ann Martin, medical social workers who are writing their thesis for a Master's Degree on the subject of the Tennessee program for the medically indigent. Mrs. Forester and Miss Martin are working three days each week, at no cost to any organization, to stimulate support for the appropriation among the organizations listed above. Their work is under supervision of the Executive Sub-Committee of the Public Service Department. This Committee is composed of Dr. Edwards, Dr. Charles C. Trabue IV, President-Elect of TSMA, and Dr. R. H. Kampmeier, Secretary-Editor of TSMA.

In his talk, Mr. Sanders said he was convinced that Tennessee doctors, by pledging themselves to render treatment free under this law, were truly symbolizing the Biblical Good Samaritan. Dr. Edwards replied that TSMA was motivated only by its obligation to humanity.

Following the scheduled talks, every representative at the round table was called on for reaction and comments. Every one pledged support willingly and enthusiastically. They all agreed to comply with a work sheet sent out a few days later by Miss Martin and Mrs. Forester. A second conference to report and evaluate progress was

set for February 12 at the Hermitage. During the weeks that followed the first conference, representatives of the "People's Lobby" have been contacting legislators in every possible way. Official newspapers of Labor organizations gave front page, number one space to stories concerning the purposes and procedures of the "People's Lobby."

Governor Clement was impressed when he was informed of the organization of this lobby—"the public welfare requiring it . . ."—by Dr. Edwards and Dr. R. H. Hutcheson when they called on him to request support for the \$1,600,000 appropriation.

So now we have some friends in court. We are not working alone. Governor Clement commented when he saw the list of friends in court: "Dr. Edwards, last time you had to go it alone." Again the Governor promised to join the "People's Lobby" but he again raised the question of how to finance it.

We know where the money COULD come from. It depends on how the Governor and his budget bureau are willing to cut the tax pie. We are asking for only 1.2 per cent of the annual income of the State of Tennessee. We are asking for it as an investment in humanity, to save human lives. Is that asking too much? You can answer that question by stating your beliefs to your legislators.

E. L. B.

## DEATHS

**Dr. Samuel N. Anderson**, 66, South Pittsburg, died December 31st at his home following a long illness.

**Dr. Russell Simpson Perry**, 83, died January 17th at his home in Bigbyville following a five months illness.

**Dr. Thomas A. Patrick**, 71, died December 17th at his home in Fayetteville.

**Dr. Edwin Lamar Baker**, 65, Bolivar, former Superintendent of Western State Hospital, died December 29th at his home.

**Dr. Allen G. Scott**, 82, died December 29th at his home in Nashville. He was a former Union City resident.

**Dr. Paul S. Ferguson**, 55, died December 28th in Knoxville at General Hospital where he was medical director and assistant superintendent.



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## *Synopsis and General Outline of Program, 1955 Annual Meeting, Tennessee State Medical Association, Chattanooga, April 10-13*

### **SUNDAY, APRIL 10**

- 8:00 a.m. —Registration of House of Delegates
- 9:00 a.m. —Opening Session of House of Delegates
- 1:00 p.m. —Anesthesiology Society

### **MONDAY, APRIL 11**

- 8:00 a.m. —Registration
- 9:00 a.m. —Motion Picture
- 9:00 a.m. —Exhibits Open
- 9:25 a.m.-Noon —General Scientific Sessions
- Noon-5:00 p.m. —Tennessee Chapter, American College of Physicians
- Noon-5:00 p.m. —Tennessee Radiological Society
- Noon-5:00 p.m. —Woman's Auxiliary
- 1:00 p.m.-5:00 p.m. —Tennessee Academy of General Practice
- 2:00 p.m.-5:00 p.m. —Tennessee Chapter, American College of Surgeons
- 2:00 p.m.-5:00 p.m. —Tennessee Pediatric Society
- 2:00 p.m.-5:00 p.m. —Tennessee Society of Ophthalmology & Otolaryngology (E.E.N.T.)
- 8:00 p.m. —President's Night

### **TUESDAY, APRIL 12**

- 8:00 a.m. —Registration
- 9:00 a.m. —Exhibits Open
- 9:00 a.m.-Noon —General Scientific Sessions
- 9:00 a.m.-Noon —House of Delegates
- 9:00 a.m.-Noon —Woman's Auxiliary
- Noon-5:00 p.m. —Tennessee Society of Ophthalmology & Otolaryngology (E.E.N.T.)
- 12:30 p.m. —President's Luncheon
- Noon-5:00 p.m. —Tennessee Psychiatric Society
- Noon-5:00 p.m. —Tennessee Pediatric Society
- Noon-5:00 p.m. —Tennessee Thoracic Society
- 1:00 p.m.-5:00 p.m. —Tennessee Diabetes Association
- 2:00 p.m.-5:00 p.m. —Woman's Auxiliary
- 2:00 p.m.-5:00 p.m. —Public Service Committee Clinic on Hospital Accreditation
- 2:00 p.m.-5:00 p.m. —Tennessee Chapter, American College of Surgeons
- 7:00 p.m. —Specialty Societies Dinners and Banquets

### **WEDNESDAY, APRIL 13**

- 8:00 a.m. —Registration
- 8:00 a.m. —Membership meeting of Tennessee Medical Foundation
- 9:00 a.m. —Exhibits open
- 9:00 a.m.-Noon —General Scientific Sessions
- 9:00 a.m.-Noon —Woman's Auxiliary
- Noon-5:00 p.m. —Tennessee Heart Association
- Noon-5:00 p.m. —Tennessee Society of Pathologists
- Noon-5:00 p.m. —Tennessee Society of Preventive Medicine and Public Health

(A number of specialty society luncheons and dinners had not been arranged when the journal went to press. They will be announced in the general program if received in time.)



**Dr. O. H. Moyers**, 67, Harriman, died December 20th at his home.

**Dr. Jerome Powers**, 58, Hohenwald, died December 30 at Vanderbilt Hospital in Nashville.

**Dr. William Hunter Kittrell**, 88, Mt. Pleasant, died January 6th at his home.

**Dr. James W. Clift**, 82, Soddy, died December 27th at his home.

**Dr. William Irving Howell**, 80, Lexington, died December 29th at his home. He had been ill for three years.

**Dr. Henry Lofton Kitts, Sr.**, Knoxville, aged 63, died December 14th in St. Mary's Hospital.

**Dr. Henry Howard Edmondson**, 70, Clarksville, died January 10th at Memorial Hospital. He had been ill for several months.

## PROGRAMS AND NEWS OF MEDICAL SOCIETIES

### Memphis and Shelby County Medical Society

The annual meeting for election of officers was held on December 21 in the Peabody Hotel. Officers elected for 1955 were as follows: President, Philip M. Lewis, M.D.; President-Elect, Dr. Samuel L. Raines; Vice-President, Nobel W. Guthrie, M.D.; Secretary, Edward D. Mitchell, Jr., M.D.; Treasurer, Battle M. Malone II, M.D.

On January 4th, members heard the first of a series of talks on current concepts in Therapy. Speakers and their topics were: Dr. Alfred Kraus, "Anemia"; Dr. A. Roy Tyrer, Jr., "Trigeminal Neuralgia"; and Dr. E. Malcolm Stevenson, "Phlebothrombosis,"

### Nashville Academy of Medicine Davidson County Medical Society

The Society held its annual dinner meeting for the installation of officers in the Andrew Jackson Hotel on the evening of January 11. Introduction of a number of guests preceded the installation of Dr. R. N. Buchanan, Jr., as President, Dr. James C. Gardner, President-Elect, and Dr. Oscar F. Noel as Secretary and Treasurer. Drs. James C. Overall and Charles C. Trabue IV assumed office on the Board of Directors.

### Chattanooga-Hamilton County Medical Society

On January 12th, the Society held its annual banquet for installation of officers

at the Chattanooga Country Club. Dr. Cecil Newell was installed as President, Dr. O. B. Murrey, President-Elect, and Dr. Harry E. Jones as Secretary-Treasurer. Dr. Albert Easley was named Chairman of the Committee on Arrangements for the Annual Meeting of the Tennessee State Medical Association. The guest speaker at the banquet was Mr. James Q. du Pont of Wilmington, Delaware.

### Knoxville Academy of Medicine

The Society held its installation of officers meeting on January 11th and Dr. E. Charles Sienknecht was installed as President. Dr. B. M. Overholt was installed as President-Elect, Dr. John D. Moore, Vice-President, and Dr. Ralph H. Monger Secretary-Treasurer.

Dr. William C. Mahoney of Boston spoke on "Untoward Reactions in Blood Transfusions." The following case reports were given: "Pancreatic Cyst Treated by Internal Drainage," by Dr. John Kesterson, and "Porphyruria," by Dr. C. H. Dabbs.

### Consolidated Medical Assembly

Two members of the faculty of the School of Medicine, University of Alabama, addressed the Consolidated Medical Assembly at its monthly dinner meeting on January 4.

Dr. J. F. Crenshaw, of the Department of Medicine, spoke on "Ulcerated Colitis." Dr. C. C. Blackwell, of the Department of Surgery, discussed "Tumors of the Neck." Dr. George Harvey and Dr. G. B. Hubbard of Jackson led the discussion.

### Robertson County Medical Society

The Society held its regular meeting on December 15. Dr. Bernard J. Bass of Nashville was the guest speaker. His paper was on "Nevi and Neoplasm of the Skin."

### Hamblen County Medical Society

Members of the Society and their wives were the guests of Dr. Frank Milligan, Jefferson City, at the Holston Hills Country Club, Knoxville, on December 8. The occasion was the banquet and election of officers. Dr. D. J. Zimmerman, Morristown, was named President, Dr. E. Dale Allen, White Pine, Vice-President, and Dr. C. J. Duby, Morristown, Secretary-Treasurer.

## NATIONAL NEWS

### Death Rate at Record Low

The health of the people in the United States in 1954 was the best in its history, according to the Metropolitan Life Insurance Company. The reported death rate of 9.2 for each 1,000 population is a record low. Among the reasons are an absence of major outbreaks of respiratory illness and the reduction of mortality from tuberculosis by 20 per cent. Development in Medical science, the growth of public health activities, and an increase in the general standard of living are other favorable factors, according to the Metropolitan.

## MEDICAL NEWS IN TENNESSEE

### Nationwide Closed Circuit Television Program

A nationwide closed circuit television program will be received in Tennessee on February 24, at 5:00 to 6:00 p.m. C.S.T. on the subject "Management of Streptococcal Infection and Its Complications." The program will be shown at the Peabody Hotel in Memphis, and at the Noel Hotel in Nashville. The Academy of General Practice and Wyeth Laboratories are sponsoring the telecast.

Academy members who attend the one-hour session will be required to register and will receive formal postgraduate credit. Guest physicians are welcome to attend.

### The Jackson Clinic's Annual Seminar

The Jackson Clinic of Jackson announces its second Annual Seminar to be held at the Clinic on March 27. Physicians from the surrounding area are invited to attend the meetings and luncheon. The first session will be Sunday, 10:00 A.M., the second is at 2:00 P.M. Speakers are: Dr. Robert H. Barker, Associate Professor of Obstetrics and Gynecology at Harvard University, and Dr. Richard Warren, Associate Professor of Surgery at Harvard University.

Program for the morning session: (1) "Management of Breech Presentation," (2)

"The Management of Acute Arterial Obstruction."

Program for afternoon session: (1) "Management of Uterine Bleeding," (2) Surgical Aspects of Venous Stasis in the Leg."

### Medical Symposium on "Therapy in General Practice"

Physicians of the Mid-South attended a symposium on "Therapy in General Practice" in Memphis on January 12th. Two hundred and fifty attended. The Tennessee Academy of General Practice, the University of Tennessee and Lederle Laboratories were co-sponsors of the symposium. The program consisted of the following: "Education for General Practice" by Dr. O. W. Hyman and "Management of Acute Nephritis in Children" by Dr. James G. Hughes of Memphis; Dr. Max S. Sadove, Chicago, "Management of Pain"; Dr. Clifford Barboraka, Evanston, Ill., "Gastrointestinal Disorders"; Dr. George Geckler of Philadelphia, "Cardiac Auscultation"; Dr. Ray O. Noojin, Birmingham, "Malignant and premalignant Lesions of the Skin"; and Dr. Robert B. Greenblatt, Augusta, Ga., "Management of the Menopause." Dr. Arthur Green, President of the Memphis Academy of General Practice, and Dr. Ben L. Pentecost of Memphis, President of the Tennessee Academy of General Practice, acted as moderators.

### Hill-Burton Hospital Construction

The Division of Hospital Facilities, FSA, reports that as of December 31, 1954, the status of all Hill-Burton hospital construction in Tennessee is as follows:

*Completed and in Operation:* 52 projects at a total cost of \$39,906,109 including federal contribution of \$16,504,545 and supplying 2,432 additional beds.

*Under Construction:* 13 projects at a total cost of \$18,076,234 including federal contribution of \$3,988,950 and designed to supply 740 additional beds.

*Approved, But Not Yet Under Construction:* 2 projects at a total cost of \$1,770,000 including \$650,000 federal contribution and designed to supply 236 additional beds.

### College of Surgeons Sectional Meeting

Scientific reports, symposia, hospital clinics, panel discussions and films on current surgical problems will be presented at the three-day Sectional Meeting of the American College of Surgeons in Nashville, April 4-6. Dr. James A. Kirtley, Jr., Nashville, is Chairman of the Local Committee on Arrangements.

Subjects to be covered include an extensive symposium on Management of Auto Accident Victims, with discussions by representatives of all specialties likely to be involved in such cases, panel discussions on Bile Duct Injuries and Peptic Ulcers, Cardiovascular Surgery, and a Symposium on Cancer. (Information may be obtained from Dr. H. Prather Saunders, American College of Surgeons, 40 East Erie Street, Chicago 11, Ill.)

### University of Tennessee College of Medicine

Dr. Tom D. Norman has been awarded a research grant of \$5,121.00 by the National Institute of Neurological Diseases and Blindness, to study the possibility of nerve regeneration in the central nervous system after the administration of cortisone.

★

Dr. Gene W. Lasater will join the faculty as full-time assistant professor in the Department of Neurology and Psychiatry to assist in teaching neurology and conduct research in nervous diseases. He received his doctor of medicine degree from Vanderbilt University School of Medicine in 1948 and received his training in neurology at the University of Minnesota Medical School. He was chief of the Neurological Section of the Fifth General Hospital, U. S. Army Medical Corps, in Stuttgart, Germany, from 1951 to 1953.

★

A postgraduate program in pediatrics will be offered to Mid-South physicians February 23 to 25 at the Le Bonheur Children's Hospital and John Gaston Hospital under the direction of Dr. Tom Mitchell. It will include recent major advances and a review of some of the more common conditions encountered in pediatric practice and case

presentation with discussion of treatments. The course will be limited to 20 physicians. The Pediatric Division also is offering to general practitioners a five-day diversified course in advanced pediatric care. This course will be held March 7-11 at the same place. The emphasis will be on active participation rather than didactic teaching. Enrollment will be limited to four physicians.

★

Dr. Roy D. Schaefer has joined the staff of the Division of Pharmacology as an instructor. He was a postdoctoral research fellow of the National Heart Institute.

★

The Division of Medicine has been awarded research grants totaling \$20,419. Dr. Daniel A. Brody was awarded \$3,999 by the U. S. Public Health Service for studies in electrocardiography. Dr. Alvin Cummins has been given \$4,420 by the Lakeside Laboratories for the study of certain anticholinergic drugs on colonic motility. He also has been awarded \$2,000 by the Smith, Kline and French Laboratories for the study of the effect of certain drug combinations on human gastric secretion. A grant of \$10,000 has been awarded to Dr. I. Frank Tullis by Eaton Laboratories to finance the study of the effectiveness of a new drug in certain intestinal infections.

### Vanderbilt University School of Medicine

Dr. Robert C. Berson has resigned as Assistant Dean to accept a position as Dean of the University of Alabama Medical School and Vice-President of the University of Alabama in charge of Medical Units in Birmingham.

## PERSONAL NEWS

**Dr. Elgin P. Kinter**, Maryville, demonstrated the use of a drunkometer recently at the Maryville Optimist Club.

**Dr. Arthur Sutherland**, Nashville, has been elected president of the St. Thomas Hospital Staff.

**Dr. Douglas Sprunt** recently spoke before the Memphis Rotary Club.

**Dr. C. D. Walton**, Mt. Pleasant, was recently honored by members of the staff of the Maury County Hospital.



**Dr. J. Kelley Avery**, Union City, has been nominated for that city's distinguished service award.

**Dr. J. M. Higganbotham**, Chattanooga, recently gave a paper over television, a series sponsored by the Health Council.

**Dr. Billy Green Lyle** has returned to his practice in Clarksville following a tour of duty with the U. S. Navy.

**Dr. B. T. Rucks**, Nashville, has retired after 35 years of medical practice.

**Dr. Eugene L. Bishop, Jr.**, Nashville, has resumed his practice following a tour of duty with the U. S. Air Forces.

**Dr. Lowry Dale Kirby** has opened an office for the practice of medicine in Nashville.

**Dr. Jere W. Lowe** has opened an office for practice of medicine in Cookeville.

**Dr. Ray Dewey Foster** has joined the Froedge Clinic at Lafayette.

**Dr. William C. Gibson** has opened an office for the practice of medicine at Middleton.

**Dr. Vincent M. Small**, Gallatin, is the newly elected County Health Officer.

**Dr. W. B. Farris**, former Health Officer of Sumner County, was recently honored by the Gallatin Rotary Club.

**Dr. George Henson**, Knoxville, has been elected Chief of Staff at East Tennessee Baptist Hospital. He succeeds **Dr. Albert W. Diddle**.

**Dr. R. J. Allen**, Elizabethton, is President of the Washington-Carter-Unicoi Medical Society.

**Dr. J. T. Jabbour**, Ridgely, has been elected President of the Dyer-Lake-Crockett County Medical Society.

**Dr. James R. Troutt**, Gallatin, is the new President of the Sumner County Medical Society.

**Dr. J. P. Quigley**, Memphis, was recently honored by the University of Tennessee College of Medicine's Staff members.

**Dr. Oliver K. Agee** has returned to Maryville to resume practice of medicine following service in the U. S. Army.

**Dr. John H. Gammon**, Knoxville, and **Dr. T. R. Ray**, Shelbyville, are Senators in the Tennessee General Assembly, and **Dr. L. S. Nease**, Newport, and **Dr. James O. Walker**, Franklin, are in the House of Representatives.

**Dr. G. G. Rhea**, Paris, is the President of the Henry County Medical Society.

**Dr. Bryant S. Swindoll**, Tullahoma, is the new President of the Coffee County Medical Society.

**Dr. James B. Zickler**, Tullahoma, has moved to Nashville where he will train as a specialist in anesthesia.

**Dr. Dan Thomas** has returned from the U. S. Navy to resume his pediatric practice in Oak Ridge.

**Dr. F. J. Malone, Jr.**, has joined the Van Hooser Clinic in Smithville.

**Dr. Reece B. DeBerry** is Chairman of the 1955 Heart Fund Campaign in Hardin County.

**Dr. James C. Lowe** has returned to his practice in Cleveland after two years of postgraduate work at the Mayo Clinic.

The Anderson County Board of Health, Clinton, has recommended the appointment of **Dr. P. W. Turrentine** as health officer.

**Drs. William G. Crook, Walton W. Harrison and Stanley E. Crawford**, Jackson, moved to the new children's clinic near to the Jackson-Madison County General Hospital.

**Dr. James B. Ely**, Knoxville, is the new Chief of Staff of General Hospital.

**Dr. C. L. Chumley**, Knoxville, is Chief of Staff of St. Mary's Hospital.

**Dr. Thomas F. Stevens** was elected vice chief of staff of St. Mary's Hospital and **Dr. John Burkhart** was elected staff secretary.

**Dr. Byron O. Garner**, Union City, has been named President of the Chamber of Commerce of that city.

**Dr. B. F. Byrd, Jr.**, Nashville, has been elected a member of the Southern Surgical Association.

**Dr. O. S. Luton** has opened his office for the practice of medicine in Dover.

**Dr. A. Brant Lipscomb**, Nashville, announces the opening of his office for the practice of General and Traumatic Surgery.

## BOOK REVIEW

**Reproductive System. The Ciba Collection of Medical Illustrations. (Vol. 2.) By Frank H. Netter, M.D., Summit, N. J. Ciba Pharmaceutical Products, Inc., 1951. 286 pages. 233 Color plates. Price \$13.00.**

Some years ago Ciba published a book of numerous colored illustrations of various anatomical structures. They were so well received that a volume on the Nervous System was put out in 1953.

The present second volume limited to one system deals with the Reproductive System.

The paintings (233 in number) are done by Dr. Netter. The contributors and consultants on text number eleven outstanding specialists and teachers in the fields of urology and gynecology. These attest to the accuracy and utility of this pictorial presentation of anatomic and pathogenic material.

The introductory section deals with the embryology of the genital tracts of both sexes.

The next five sections illustrate the normal anatomy of the male genitalia and its diseases. This is followed by six sections portraying the same content with reference to the female genital tract. There are next a section on pregnancy and its diseases, a section on the mammary gland, and finally a section on the intersexes (true and pseudohermaphroditism).

Ciba is to be complimented upon making available to the profession at such a modest price this beautifully illustrated material. It is so convenient to the physician for quick review of information, and to illustrate to his intelligent patients anatomy and disease if he wishes to do so. This atlas on the reproductive system is recommended.

R. H. K.

## PLACEMENT SERVICE

*The placement service of The Tennessee State Medical Association is designed to assist doctors and communities to get together. Further information and contacts on both physicians and communities are available from the Public Service Department, 322 Doctors Building, Nashville 3, Tennessee.*

### Locations Wanted

A 33 year old, single physician, Protestant, graduate Faculty of Medicine, McGill University, Montreal, Canada. Priority IV. Medicine and surgery, clinic, assistant or associate in community 5,000-10,000. Available July 15. LW-100

A 31 year old, married physician, Catholic, graduate University of Tennessee, Priority IV, specialty training three years general surgery residency. Community 25,000 or more. Available immediately. LW-103

A 36 year old, married, Episcopal, graduate University of Colorado, certified in Ophthalmology. Presently in U. S. Navy. Desires community 20,000-200,000 in East or Middle Tennessee. Available July, 1955. LW-104

A 30 year old, married physician, graduate University of Tennessee, Priority IV-A. Desires general practice. Available Feb. 1, 1955. LW-125

A 29 year old, married physician, Protestant, graduate Vanderbilt University, priority IV, Available after completing hospital requirements for Internal Medicine Boards on July 1, 1955. LW-132

A 32 year old, married physician, Protestant, graduate Indiana University Medical School, board qualified Urologist. Being relieved from active duty. Desires clinic. Available July, 1955. LW-133

A 33 year old, married physician, Protestant, graduate Columbia University. Priority IV. Desires surgery in community 8,000 and up. Clinic, assistant or associate. Available January, 1955. LW-137

A 31 year old, married physician, Baptist, graduate Johns Hopkins, presently on active duty. Desires general surgery, clinic, assistant or associate. Available July 1, 1955. LW-140

A 31 year old, married physician, Protestant. Graduate George Washington University. Certified by American Board of Pathology in Pathologic Anatomy. Priority IV. Desires Pathology—position as director of hospital laboratories. Available now. LW-143

A 30 year old married physician, Catholic. Graduate St. Louis University. Board qualified in dermatology February 1, 1955. Priority IV. Available April 1, 1955. LW-145

A 27 year old, married physician, Episcopalian. Graduate University of Arkansas. At present General Practice Residence. Terminates June 30, 1955. Available July 1, 1955. LW-146

A 28 year old, married physician, State University. Just discharged from service. Desires general practice. Available January 15, 1955. LW-147

A 32 year old, married physician, Canadian, Protestant. Graduate "U" Manitoba, Winnipeg, Manitoba. Desires general surgery. Would con-

sider clinic, industrial, assistant or associate. Available February or March, 1955. LW-148

A 34 year old, married physician, graduate University of Arkansas. Priority IV. Desires General and Thoracic Surgery. Clinic assistant or associate. Available anytime after January 1, 1955. LW-149

A 32 year old, married physician, Methodist. Graduate Washington University. Applied for FACS and eligible for National Boards, March, 1955. Priority IV. Desires surgery. Available July, 1955. LW-150

A 46 year old, married physician, Seventh-Day Adventist, graduate College of Medical Evangelists, Loma Linda, California. Board eligible in General and Thoracic Surgery in July, 1955. Desires clinic, assistant or associate. Available July, 1955. LW-151

A 27 year old, married physician, graduate Tulane University, taken Part 1, American Board of Internal Medicine. Completing military service. Desires Internal Medicine of Cardiology, clinic, Associate. Available July 1. LW-152

A 28 year old, married physician, Methodist, graduate University of Pennsylvania. Three years residency training in Ob. Gen. Priority IV. Desires Clinic, Associate. Available July 1. LW-153

A 37 year old, married physician, Protestant, graduate Medical College of Virginia. Board eligible for American Board of Surgery. 24 months military service. Desires general practice with surgery. Available anytime. LW-156

A 43 year old, married physician, Episcopalian, graduate University of Chicago. Board Certificate American Board of Orthopedic Surgery. Completing military service. Available December 12, 1954. LW-157

A 36 year old, married physician, Protestant, graduate University of Louisville. Three years (board approved) training in Internal Medicine. Priority IV. Desires Industrial Medicine with special interest in Internal Medicine. Available after January 1, 1955. LW-158

A 30 year old, married physician, Southern Baptist, graduate Vanderbilt University. Reserve Officer. Desires general practice, assistant or associate. Available July, 1955. LW-159

A 27 year old, married physician, Protestant, graduate University of Illinois. Passed Part I of American Board of Internal Medicine, will take Part II in May. Completing military service. Desires Clinic, assistant or associate, or industrial. Available July, 1955. LW-160

A 31 year old, married physician, Protestant, graduate Bowman Gray. Four years general surgery, residency approved, American Board eligible. Priority 5-A. Available July 1, 1955. LW-161

A 28 year old, married physician, Protestant, graduate University of Tennessee. At present Interning. Desires General Practice, Clinic, Assistant or Associate. Available August 1, 1955. LW-162

A 36 year old, married physician, Episcopalian, graduate University of Tennessee. Board qualified internal medicine. Will be discharged from Navy March 1, 1955. Desires Internal Medicine, assistant or associate. Available March 1, 1955. LW-163



# Journal of the Tennessee State Medical Association

OWNED AND PUBLISHED BY THE ASSOCIATION

Volume 48

MARCH, 1955

Number 3

*This is a condition to be kept in mind during the polio season because of the diagnostic problem.*

## PARALYSIS DUE TO THE BITE OF A TICK

JACK CHESNEY, M.D., Knoxville, Tenn.

Paralysis following the attachment of a tick to the human or to animals has been known since 1824, when Howell of Australia reported cases of tick paralysis in man and domestic animals. In the middle and latter part of the nineteenth century, paralysis of this type was described in the British literature in Australia and New Zealand, as well as in South Africa. The deaths of great numbers of domestic animals such as calves, colts, sheep, and lambs caused great economic loss and resulted in much clinical and laboratory research in veterinary medicine in an effort to solve the problem.

The first case in North America was reported by Todd of Oregon in 1912, who reported paralysis in a human following attachment of a female *Dermacentor andersoni*. During the next four decades several hundred cases were reported from British Columbia, from the Pacific Northwest, and from the region lying between the Northern Rockies and the Cascades.<sup>1</sup>

Not until 1938 were cases of tick paralysis described in the Eastern United States. In that year, cases were described almost simultaneously in Georgia and in South Carolina.<sup>2,3</sup> Most of the eastern cases have been in the southeastern states, including Alabama, Georgia, Kentucky, North and South Carolina, Virginia, Florida, and the District of Columbia. One case each has been reported in Pennsylvania and New York. In 1951, Dr. Beulah Kittrell of Maryville, Tenn., reported a case from Blount County, Tenn.<sup>4</sup> Dr. Henry Christian of Knoxville diagnosed a case of tick paralysis in a ten year old girl during the summer of 1949.<sup>5</sup> His case has not been reported in the literature.

The following case is the third to be described in the East Tennessee area within the past five years.

### Case Report

S. B., a 5 year old, white girl of Knoxville, was seen on August 7, 1954, with a history that on the previous day she stumbled when she walked. When first seen, she was unable to stand and was even weak and wobbly when she sat. She had no fever, headache, vomiting, or other symptoms. The mother had noticed the presence of several suboccipital lymph nodes on the right side of the neck. She was admitted at once to St. Mary's Memorial Hospital with a diagnosis of paralysis of unknown cause.

On examination she was found to be a well-developed, well-nourished female child who was intelligent and cooperative. The sensorium was clear. There was no acute respiratory infection, nor was there evidence of abnormality of the lungs, heart and abdomen. She presented a mass of moderately enlarged posterior cervical suboccipital lymph nodes on the right side of the neck. The neck was not rigid and there was no evidence of a Kernig or Brudzinski sign. There was some impairment of the deep reflexes of the legs. There was no evidence of bulbar weakness. Examination of the eye-grounds was negative. The child was ataxic and could not stand alone, nor could she take a single step. The blood pressure was 100/65, pulse, 84, respiration, 20, temperature, 99° by rectum.

Laboratory findings were as follows: A.P. and lateral X-ray films of the skull were entirely normal. Chest X-ray study was normal. Complete blood count:

|                   |              |
|-------------------|--------------|
| Hemoglobin        | 13.2 Gm.     |
| Red Blood Count   | 4.23 million |
| White Blood Count | 8,600        |
| Lymphocytes       | 47%          |
| Eos.              | 3%           |
| Polys.            | 50%          |

No abnormal white blood cells were seen on a smear. The Kline was negative, and the urinalysis was entirely normal. PPD tuberculin test was negative. Histoplasmin skin test was negative.



The heterophile agglutination was positive only to a 1:14 dilution.

*Course in the Hospital:* When the child was first admitted, the association of cervical lymphadenopathy and the neurological symptoms suggested the possibility of infectious mononucleosis. The possibility of an acute poisoning of some type was also considered, although there was no history of possible contact with any type of poison, insecticide, fertilizer, or medicine. Poliomyelitis was not considered because of the lack of fever or rigidity of the spine.

Dr. W. E. Smith, neurosurgeon, saw the child in consultation the day of admission. He found nothing abnormal except the aforementioned lymph nodes and the slight impairment of the deep reflexes of the extremities. He performed a spinal puncture. The fluid was perfectly clear with a pressure of 120 millimeters. The spinal fluid sugar showed 50 mg. per cent, the spinal fluid chloride was 739 mg. per cent, and the protein was 15 mg. per cent. Culture and smear of the spinal fluid were negative for microorganisms.

*Course:* On the day after admission, the child was relatively unchanged. The temperature, pulse, and respiration remained normal. With the absence of any abnormalities in the laboratory findings, it was determined to check her blood, urine, and stools for evidence of any poisoning, and preparation was made to do so. On the third day of hospitalization she showed very slight improvement. On that day about noon, an engorged tick was found imbedded in the scalp in the upper right occipital region. The tick was removed by the nurse. Unfortunately, it was destroyed before it could be sent to an entomologist for exact identification. Later that afternoon the child began to improve and was able to climb out of bed and to walk with slight help. On the following morning she was able to walk up and down the hospital corridor without difficulty, and she was discharged to her home.

When examined one week and also one month later, she appeared to be entirely normal in every respect. There has been no further evidence of weakness or of ataxia.

*Further history* revealed that this child's home was situated in a sparsely wooded suburban area, approximately one and one-half blocks from the Knoxville Dog Pound. She had also visited on a farm near the western slope of the Cumberland Plateau about one week before her weakness began. The swelling of the suboccipital lymph glands subsided rapidly after the tick was removed.

#### **Etiology of Paralysis**

Tick paralysis, which is associated with the bite of a tick, may be mild, consisting of slight weakness of the legs with ataxia, or it may demonstrate itself as an ascending, flaccid paralysis, resulting in bulbar paralysis and death. There are reported 332

cases from the western states with a mortality rate of 11.7 per cent.<sup>1</sup> Approximately 30 cases have been reported in the eastern series with only one death, so that several authors have felt that the eastern type of paralysis must be much milder than that which occurs in the Pacific Northwest. In a small number of the western cases, diagnosis was not made until after death from bulbar paralysis. While preparing the bodies for burial, the morticians found engorged ticks on the children's scalps.

Much research has been carried out in an effort to determine the cause of the paralysis. Infection of the individual who has been bitten, by bacterial or viral infection, has been ruled out. Experiments have been performed in which portions of ticks or emulsions of ticks have been injected into experimental animals. Numerous types of ticks in various stages of growth and development and in various stages of engorgement have been investigated.<sup>6</sup> Many of these experiments have resulted in death due to paralysis, of the experimental animals, particularly guinea pigs.

The consensus of opinion is that the toxin is formed by a female who is maturing her eggs and that the toxin is largely concentrated in the eggs. It is probable that the female must have been fertilized by a male and that infertile eggs may not contain the toxin. Some of the toxin is contained in the saliva of the female gravid tick and when a female has been attached to a human for six or eight days she passes the toxin to the bitten person who then develops the paralysis.<sup>7</sup>

Engorged gravid ticks have been removed from children and have been attached to experimental animals who died six days later of paralysis.

It is almost certain that the following conditions must be met:

1. The tick must be a female
2. She must be pregnant
3. She must be attached for a period of 5 to 8 days before paralysis develops
4. Paralysis probably never develops from the bite of a male tick

Many types of ticks can cause the paralysis. Most of the cases in the southern hemi-

sphere are due to types of ticks which do not exist in the United States or Canada.

The cases in the Pacific Northwest are associated with the *Dermacentor andersoni* or the wood-tick. This is the tick which is also associated with the rickettsial disease, Rocky Mountain Spotted Fever and is widely prevalent in British Columbia, in Washington, Oregon, and the northern intermountain group of states, as well as Nebraska and South Dakota.

Of the eastern group of cases, only four have been due to the bite of the *Dermacentor andersoni*, approximately half have been due to the bite of the *Dermacentor variabilis* of Say, and the remainder have been due to unidentified ticks. The *D. variabilis* is widely scattered throughout the Eastern United States and particularly in the seaboard states. It is found to a limited extent in all states except the western intermountain states. Seed ticks and nymphs feed on small animals but mature ticks feed upon squirrels, dogs, cattle, horses, and man.

Ticks tend to develop in damp areas in underbrush, tall grass and weeds, especially where there is a fair amount of moisture. They are quite prevalent in grassy patches in woodlands but are rare in dense forests. They tend to occur near paths and open areas where they attach themselves to passing animals or humans.\* When they hatch, they tend to go to hairy or covered areas such as the waist-line, axilla, groin, and particularly the scalp. They are said not to attach themselves for several hours so that if a person is examined carefully, twice daily, ticks may be discovered and removed before they attach themselves. Once they become attached they may remain for six to ten days, gradually sucking blood and engorging themselves.

The disease is most prevalent in the tick season, namely, March or April until August or September. The majority of cases have occurred in June or July. The Florida case occurred in November, reflecting the long warm season there. Of the 30 eastern cases, more than two-thirds had been in girls or young women and most of the ticks had been found attached to the scalp.

### Clinical Picture

The typical story is that a girl, from three to ten years of age, becomes irritable and develops some pain, weakness, and lack of coordination in the legs. When she attempts to walk, she falls. She must stay in bed and over a three or four day period has a flaccid paralysis, involving the feet and legs and the muscles of the back. Gradually the arms become involved and if the tick is not removed, bulbar paralysis develops with inability to swallow, to smile, or to speak. Gradually bulbar respiratory paralysis develops and death ensues.

The superficial reflexes are retained but the deep reflexes are lost. There are no pathological reflexes such as the Kernig or Brudzinski signs. Occasionally there is mild stiffness of the neck. In mild cases there may be slight weakness with a cerebellar type of ataxia.

In general the temperature is normal or only very slightly elevated. Pulse, respirations and blood pressure are normal unless bulbar symptoms occur. Laboratory findings, including sedimentation rate, blood count, urinalysis, and spinal fluid findings are all normal. Of importance are:

1. Sudden onset with fever and with little pain
  2. Clear sensorium in an apathetic child
  3. Absent or weak reflexes
  4. An ascending, flaccid, complete, and symmetrical paralysis
  5. Occurrence of ataxia and parasthesia
- One must differentiate in diagnosis:

1. Poliomyelitis
2. Toxic encephalitis
3. Brain or spinal cord injury
4. Toxins or poisons which affect the central nervous system

The most important of these is poliomyelitis, since it occurs in the summer months. The chief differential points are:

1. Absence of fever
2. Relative lack of pain
3. Normal spinal fluid
4. Absence of muscle spasms
5. Early loss of reflexes
6. Picture of apathy
7. History of tick bite or presence of a tick

Why is the disease rare since ticks are

widely scattered? The important factors are:—it must be a female tick; she must be gravid; she must be gravid with fertile eggs; and she must be present for six to eight days without being discovered. There may be some strains of ticks which do not produce the poison. There may be some individual susceptibility to the toxin.

One should always keep the disease in mind when confronted with a child in the summer months who has become weak, ataxic or paralyzed. The scalp must be examined carefully, especially in girls having long hair, since the ticks can easily be missed.

For prevention, dogs or other household pets which get ticks should be carefully "deticked." Children who play in grassy or partially wooded areas should be examined especially at noon and at bed time for ticks. It requires six to eight hours for the tick to become attached, and a daily examination twice will suffice to prevent attachment. In the summer children's hair should be kept short and should be washed frequently.

*Prognosis* is apparently worse in the western cases and some have thought that the paralysis due to the bite of the *D. andersoni* is more toxic than that of the *D. variabilis*. Approximately 10 to 12 per cent of the western cases die while only 3 to 5 per cent of the eastern ones die.

#### Treatment

Look for a tick in dark, hairy areas. It may be as large as 10 by 13 mm. in size and when engorged is gray in color. Attempt to remove the tick as a whole without leaving mouth parts in the skin. Use of volatile substances such as ether, acetone, or benzine will loosen in about 10 minutes. One

may touch the tick with hot needle or lighted cigarette. Gentle, straight traction is better than twisting motion.

Patients having bulbar paralysis should be given oxygen, and suction should be used to prevent aspiration of saliva with resulting asphyxia. Feeding should be by vein or, as the patient improves, by stomach tube. The use of the respirator has not proved to be of much value in the severe cases.

Most patients begin to improve within a few hours after the removal of the tick. A small number of those with bulbar symptoms, who have been desperately ill at the time of removal of the tick, have had progressive disease until death.

The author wishes to express his appreciation to Mr. W. W. Stanley, Entomologist, and to Dr. George M. Merriman, Veterinarian, of the College of Agriculture, University of Tennessee, for their advice and their assistance in covering the Veterinary Literature.

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*The author reviews a condition which is exceedingly difficult of diagnosis. Only the more marked cases offer a clear-cut clinical picture.*

## SPONTANEOUS HYPOGLYCEMIA

W. RUTLEDGE MILLER, M.D., Johnson City, Tenn.

Spontaneous hypoglycemia is the cause of a characteristic group of symptoms in a relatively large number of individuals. The various possible causes of this condition will be discussed later in this article, but functional hyperinsulinism is by far the most common cause of spontaneous hypoglycemia. It should be obvious that the successful management of periodic spontaneous hypoglycemia is dependent entirely upon establishing the correct etiological diagnosis.

### Hypoglycemia

The common occurrence of the hypoglycemia syndrome is readily apparent to those physicians who maintain an awareness of its existence and who are familiar with the rather typical symptoms which hypoglycemia may produce. While about 70 to 80 per cent of all cases of spontaneous hypoglycemia are due to functional hyperinsulinism, it might be well to review the numerous abnormalities which are capable of producing depressions of the blood sugar level. The following table lists these various possible causes.\*

- I. Organic—recognizable anatomic lesion
  - A. Hyperinsulinism
    1. Pancreatic island cell adenoma
      - (a) Single
      - (b) Multiple
      - (c) Aberrant
    2. Pancreatic island cell carcinoma
      - (a) Localized
      - (b) With metastases
    3. Generalized hypertrophy and hyperplasia of the islands of Langerhans
  - B. Hepatic disease
    1. Ascending infectious cholangiolitis
    2. Toxic hepatitis
    3. Diffuse carcinomatosis
    4. Fatty degeneration, "fatty metamorphosis"
    5. Glycogenosis (von Gierke's disease)
  - C. Pituitary hypofunction (anterior lobe)
    1. Destructive lesions (chromophobe tumors, cysts, et cetera)
    2. Atrophy and degeneration (Simmond's disease)

3. Thyroid hypofunction (possibly secondary to pituitary hypofunction)
- D. Adrenal hypofunction (cortex)
  1. Idiopathic cortical atrophy
  2. Destructive infectious granulomas
  3. Destructive neoplasms
- II. Functional—no recognized anatomic lesion but explainable on basis of unusual somatic function
  - A. Hyperinsulinism (imbalance of the autonomic nervous system) "Hypoglycemic fatigue"; "nervous hypoglycemia"; "functional hypoglycemia"; "reactive hypoglycemia," et cetera
  - B. Alimentary hyperinsulinism (rapid intestinal absorption)
    1. Post gastroenterostomy
    2. Post gastric resection (partial or total)
  - C. Renal glycosuria (severe degrees of low renal threshold for dextrose)
  - D. Lactation
  - E. Severe continuous muscular work
- III. Miscellaneous
  - A. Factitious (surreptitious insulin administration)
  - B. Postoperative hypoglycemia
  - C. Severe inanition
  - D. Unknown

The instability of the autonomic nervous system, which is normally responsible for adjustments of the blood sugar level, is the basic disturbance responsible for *functional hyperinsulinism*. It is a well accepted fact that the rise in the blood sugar level, following the normal absorptive process after a meal is the stimulus for the production of insulin. With this basic fact in mind, it is also understood and accepted that the normal individual may have a blood sugar level somewhat lower than the fasting blood sugar level two or three hours after the ingestion of food. In the cases of functional hyperinsulinism, however, the absorption of glucose produces a normal stimulus but excessive secretory activity of the pancreatic island cells, results in an excess of insulin with abnormal depression of the blood sugar levels. It is known then, that the stimulus of carbohydrate absorption is necessary to produce attacks of spontaneous hypoglycemia. The absence of attacks before break-

\*With permission of Dr. J. W. Conn.

fast and the persistent normal fasting blood sugar levels are thus easily explained in individuals suspected of having spontaneous hypoglycemia.

#### Symptoms

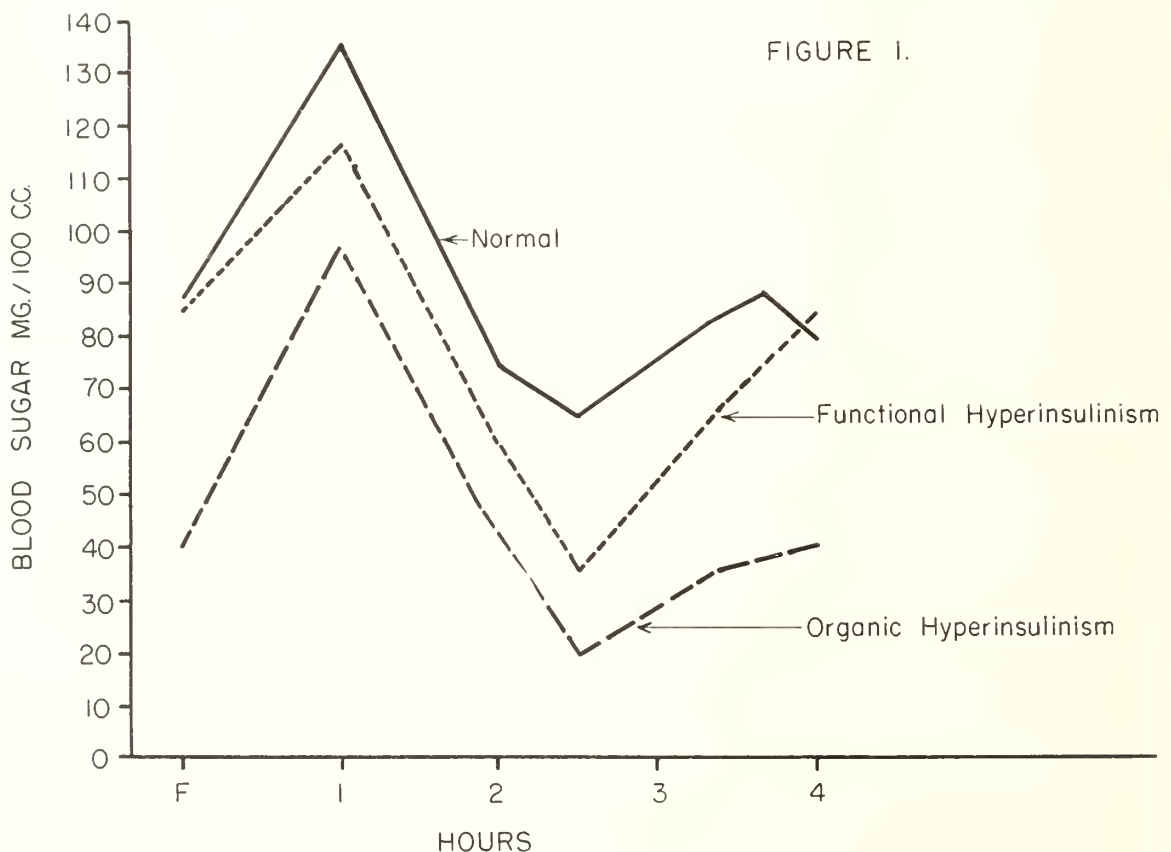
Although the symptoms of spontaneous hypoglycemia may vary considerably, a patient physician may, by intelligent questioning, bring out points in the history which would aid in reaching a diagnosis. Any patient who complains of rather sudden attacks of weakness and fatigue, occurring most commonly in the late forenoon or late afternoon, should be suspected of experiencing functional hyperinsulinism. Other symptoms, which commonly accompany a rapidly falling blood sugar level, such as fainting, pallor, sweating, palpitation, inward trembling and visual disturbances, would be more strongly suspect. These patients also frequently complain of a peculiar discomfort in the epigastrium but rarely is it described as a definite sensation of hunger. These patients can also tell the physician that such symptoms disappear rapidly after the ingestion of any type of food, with carbohydrate giv-

ing probably the quickest relief. It is also true, however, that the symptoms usually subside spontaneously after twenty or thirty minutes and this, of course, is due to mobilization of glycogen from the body and its conversion to available blood sugar. Such response is part of the "alarm reaction" which is a well known process.

Many patients presenting such a story to their physician are probably classified as having an anxiety type of psychoneurosis and it should be repeated that only the physician maintaining a diagnostic awareness of functional hyperinsulinism will reach the correct diagnosis and institute the correct treatment.

#### Diagnosis

The diagnosis of functional hyperinsulinism depends on (1) history, (2) abnormal glucose tolerance tests, and (3) good response to a high protein, low carbohydrate diet. Satisfactory evidence of a functional hyperinsulinism may be found in the results of a standardized glucose tolerance test, and figure 1 represents a typical example of



such response as compared to a normal patient.

It is usually very difficult to obtain blood specimens at the beginning of an attack because the attacks are of such short duration. However, when a blood specimen is obtained at the beginning of an attack, it is usually found to contain between 40 and 60 mg. of glucose per 100 cc., but even 15 or 30 minutes after the beginning of an attack, the blood sugar level will have returned to within the normal range or might rebound to a level even slightly higher than normal.

#### *Secondary Hypoglycemic Phase of the Glucose Tolerance Test*

| Lowest Level of Blood Sugar | Interpretation   |
|-----------------------------|------------------|
| 0-39 mg. %                  | Diagnostic       |
| 40-49 mg. %                 | Presumptive      |
| 50-59 mg. %                 | Suggestive       |
| 60-60 mg. %                 | Low normal range |

Clinicians should be well aware of the differentiation between the rather common spontaneous hypoglycemia and with the much less common, but frequently more serious disease, organic hyperinsulinism. The diagnostic distinction between these two conditions is fairly simple. This distinction is based upon the fact that in organic hyperinsulinism, the production of insulin is continuously excessive, while in functional hyperinsulinism the excess of insulin is spasmodic and only in response to the stimuli as mentioned earlier. The following table briefly outlines the points to consider in differential diagnosis.

#### **Treatment**

Shortly after it was shown that functional hyperinsulinism was dependent upon the ingestion of carbohydrate and also that a high carbohydrate diet was likely to intensify such attacks, a low carbohydrate diet

was introduced as the form of treatment. The patients treated on this program were improved but it necessitated a frequent feeding schedule, and in 1936 Conn introduced the high protein diet with carbohydrate restriction. It is known that protein yields approximately 50 per cent of its weight as glucose during metabolism in normal individuals and even in most diabetics, but no significant rise in the blood sugar level is seen after the ingestion of protein because the conversion of protein to carbohydrate is a slow and even process. Protein is split in the digestive process in the intestines into amino acids and is absorbed as such into the blood stream. In the liver, these amino acids are deaminized and converted to glucose, whereas, ingested carbohydrate is absorbed quickly and directly into the blood stream as available glucose and thus produces a rapid elevation with stimulation of the pancreas and secondary hypoglycemia in the susceptible individual. It is because of this slow release of glucose from the protein that a secondary hypoglycemia is not produced. This principle has been confirmed by Thorne and many others. The majority of patients with spontaneous hypoglycemia will respond promptly to a high protein, low carbohydrate diet. The use of a three meal program is feasible and should contain between 120 and 140 grams of protein per day. The carbohydrate intake is restricted to between 50 and 75 grams and is divided evenly between the meals. Most physicians or dietitians can plan an effective diet using the above mentioned amounts of protein and carbohydrates.

#### **Summary**

Spontaneous hypoglycemia, most com-

#### *Differential Diagnosis*

| <i>Clinical Distinction:</i>  | <i>Functional Hyperinsulinism</i>                               | <i>Organic Hyperinsulinism</i>   |
|---|---|--|
| 1. The time of the day that attacks characteristically occur.             | 2 to 4 hours post-prandially.<br>No pre-breakfast attacks.      | Pre-breakfast attacks frequent.<br>Episodes also occur 2 to 4 hours post-prandially. |
| 2. Effect of omission of a meal   | Does not produce hypoglycemia.                                  | Likely to produce severe attack  |
| 3. Progression of attacks (frequency and severity).                       | Not progressive. Characterized by remissions and exacerbations. | Relentlessly progressive.  |
| <i>Laboratory Criteria:</i>   |   |  |
| 1. The fasting blood sugar level.   | Normal  | Subnormal (below 50 mg. %).  |
| 2. Provocation of hypoglycemia by fasting or by carbohydrate restriction. | Not abnormally depressed  | Markedly depressed (below 40 mg. %).   |
| 3. The glucose tolerance curve.   | See Figure 1.   | See Figure 1.  |



monly caused by functional hyperinsulinism, is a well defined entity if the physician is aware of its possible presence. This syndrome and its treatment with a high protein-low carbohydrate diet is discussed.

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### The Clinical Features Associated with Kimmelstiel-Wilson Lesions. George W. Dana and Charles G. Zubrod. *Bull. Johns Hopkins Hosp.* 95:338, 1954.

This report compares the clinical characteristics of 45 patients with diabetes mellitus who had Kimmelstiel-Wilson nodules at autopsy with 133 diabetic patients who at autopsy did not show Kimmelstiel-Wilson nodules. This latter group of patients were divided into two categories, one being patients who had other renal lesions, and the other being diabetics with no renal lesions.

Although patients with diabetes of less than five years duration rarely exhibited nodules the development of nodules was not a simple function of length of duration of diabetes, since 29 patients had diabetes for 11 years or longer and had no glomerular nodules. Diabetic retinitis was present in 35 of the 45 patients with Kimmelstiel-Wilson lesions and in only 12 of the 133 control patients. When one remembers that capillary micro-aneurysms may at times be difficult to detect with the ophthalmoscope, this high incidence is more remarkable in the patients with Kimmelstiel-Wilson lesions. The combination of retinitis and peripheral edema was a reliable diagnostic point in favor of the glomerular nodules since only two per cent of the control diabetic patients had these signs concomitantly.

Although the classical triad of hypertension, albuminuria and edema occurred in less than half of the patients with Kimmelstiel-Wilson nodules, when present it was strong evidence in favor of the diagnosis of Kimmelstiel-Wilson lesions. The authors noted that co-existence of arteriosclerosis and arteriolosclerosis of the kidneys with Kimmelstiel-Wilson nodules occurred frequently. However, either could occur independently of the other. They noted that the four patients with pure glomerular nodules and no evidence of arteriosclerosis or arteriolosclerosis did not manifest the combination of hypertension, albuminuria and edema.

The frequent co-existence of Kimmelstiel-Wilson nodules in the kidneys and diabetic retinitis and the extensive evidence that an early lesion in retinitis is the capillary aneurysm raise the possibility that the beginning process in the glomerulus may be of similar nature. The authors present a photomicrograph of capillary dilatation in a glomerular capillary. They wonder whether such capillary micro-aneurysms in the glomerulus progress to the nodules characteristic of Kimmelstiel-Wilson lesions in the kidney. (Abstracted for the Tennessee Diabetes Association by Addison B. Scoville, Jr., M.D., Nashville, Tenn.)

*A common condition difficult to manage. The psychogenic factors must not be overlooked. Simple therapeutic measures may give relief.*

## PRURITUS ANI\*

CHARLES K. RATH, M.D., Murfreesboro, Tenn.

"This I do advertise every man, for this matter to ordain or prepair a good pair of nails, to scratch and claw, and to rent and tear the skin and the flesh, that the corrupt blood may run out of the flesh; and use then purgations and stuff and sweats. And beware, reverberate not the cause inward with no ointment, nor claw not the skin with fishy fingers, but wash the hands to bedward." (Andrew Boorde, 1490-1549.)

Although this is hardly good advice today, pruritus ani is an extremely distressing syndrome to the patient and all too frequently to the physician. Its management is not difficult in the great majority of cases and gratifying results may be obtained in most cases. A logical approach to this problem may save most patients a great deal of time and expense, leaving the detailed investigation to those occasional patients who do not respond to the treatment to be outlined.

### Etiology

|                  |                             |
|------------------|-----------------------------|
| Neuropsychiatric | Dementia praecox            |
|                  | Paranoia                    |
|                  | Toxic psychosis             |
|                  | Neurosis, "nervousness"     |
|                  | Fatigue, situational stress |
| Systemic         | Diabetes mellitus           |
|                  | Liver disease               |
|                  | Gout                        |
|                  | Tuberculosis                |
|                  | Foods and food allergy      |
|                  | Infection                   |
|                  | (a) Bacterial               |
|                  | (b) Parasitic               |
|                  | Prostatic disease           |
|                  | Pregnancy                   |
| Local            | Neoplasm                    |
|                  | Lymphoblastoma              |
|                  | Cerebral arteriosclerosis   |
|                  | Rectal disease              |
|                  | Other local disease         |

Although we can outline the etiology as above, most patients with pruritus probably

have some psychogenic overlay and for this reason there is usually a long history of difficulty before seeking advice. Of the systemic causes, diabetes is by far the most frequent offender, with the possible exception of certain foods which will be noted under treatment. Under local causes, any rectal disease must be listed as a possible cause. Other local pathologic changes would include gynecologic disease of the female and prostatic disease of the male. We have found these to be rare offenders.

### Physiology

Itching is a function of the epidermis where the terminal nerve endings are located. The sensation is related to that of pain and is mediated by pain receptors when these are weakly stimulated. Two types of pain are described. The first, or so-called "fast" pain, is localized and discrete. It is probably a function of the myelinated fibers. The second, or "slow" pain, is more of a burning type and is a function of the unmyelinated fibers. This is a more diffuse pain sensation. The pain threshold is lower at the site of an itch than is normal skin.

Relief by scratching produces the more tolerable sensation of pain but traumatizes the skin. The protective thickening which is produced in time is called lichenification. Trauma such as scratching is associated with the clinical response of, (1) red line, (2) flare, (3) whealing. This is due to the release of histamine or histamine-like substances which in turn produce itching in some people. Obstruction of sweat pores also causes itching.

It has been determined experimentally that anesthetic drugs are not absorbed through the intact skin and even the excoriated traumatized skin absorbs very little. Subcutaneous injections of local anesthetic require relatively large amounts to

\*Read at the Meeting of the Middle Tennessee Medical Association, November 18, 1954, Gallatin, Tenn.

be effective. Intravenous procaine was found to be ineffective also.

Antihistamines were not effective in topical application except in urticaria producing disease. None of 54 topical preparations commonly prescribed were found effective in experimentally produced histamine pruritis in man.

Morphine and codeine do not alter pain sensation but only the reaction to it and are therefore undesirable. Barbiturates only inhibit the cortical centers which are needed to control the scratch reflex.

### Examination

Local examination will reveal varying degrees of excoriation, redness and in the more chronic cases thickening of the perianal skin. The perianal folds are almost invariably deepened due to edema. Any anal disease must be noted. Hemorrhoids, fissures, fistulas, cryptitis and papillitis all tend to keep the area moist and dirty. History should help in so far as tumor or systemic diseases causing diarrhea are concerned. It is my practice to defer sigmoidoscopy until treatment has relieved the local soreness, unless the history is definitely suggestive of a serious systemic disease such as cancer or ulcerative colitis. However, complete examination should be carried out in every case before the patient is discharged.

### Treatment

In treatment, a confident approach is suggested because of the psychogenic factors. Instructions must be clear and definite. The patient is given a copy of the following instructions:

(1) Do not use soap. Keep area clean with clear water and dry carefully with a soft towel. After bowel movements, use only Kleenex or cotton. If ordinary toilet tissue must be used, rumple the tissue before using in order to break the bond of the paper or wet the paper. Witch hazel may be used to clean the area and a castile soap is permissible.

(2) Drink a glass of warm water before breakfast every morning. A little lemon juice will make this more palatable if necessary.

(3) Bowel movements should be soft but should always consist of a *formed* movement. Movements should never be liquid. If so, omit the water for a day or two. If movements are hard, take mineral oil or milk of magnesia.

(4) If you tend to be nervous, try to get extra rest and avoid situations which distress you.

(5) Do not use any medication without the doctor's permission.

(6) Apply the ointment prescribed after each bowel movement (after proper cleansing) and at night.

(7) The following foods and beverages are often responsible for itching and must be scrupulously avoided until complete relief is obtained.

(a) Alcohol—beer, wine or liquor.

(b) Condiments—salt, mustard, especially pepper, and spices.

(c) Seafood—salt fish, lobster, crabs, oysters, clams.

(d) Others—oatmeal, cheese, pickles and cucumbers.

(8) You may wish to continue scratching the first day or two of treatment.

If you cannot restrain yourself, use the flat tips of your fingers. Cut your nails short to prevent scratching at night. Keep nails clean.

(9) Do not wear tight clothing.

The above instructions are supplemented by a prescription for a suitable ointment. Phenol, 1 per cent, menthol, 0.5 per cent and zinc oxide ointment is an excellent one. In cases with very marked irritation, a soothing ointment which counteracts the acid bowel movements is centrifuged Amphojel. Buchanan recommends calamine and phenol and does not use preparations with menthol.

On the above regime relief is obtained rapidly. We have had patients who did not even return for follow-up but who had almost complete relief when seen for some other reason.

Keeping in mind the facts mentioned under physiology, the use of such an ointment may seem contradictory. However, the patients seem to feel that it is effective, and whether the result is physiologic or psychologic, it is well worth while.

Dry skin lacks water rather than oil, and wet soaks will help relieve itching of lichenified skin. Unfortunately the relief is short-lived after removal of the dressings because of the evaporation of the water. Occlusive dressings of petrolatum will help prevent this water loss.

In the nervous patient it is well to order mild sedatives. As pointed out earlier, barbiturates are not satisfactory, although clinically they appear to be effective.<sup>13</sup> Chloral hydrate enhances sleep without enhancing scratching and is preferable.



Stimulants may aid in control but if they are overdone they will also increase the scratch desire and act. Salicylates decrease pain and itching and are therefore logical in use.

From time to time various ointments are recommended for the treatment of pruritis ani, usually lumped in with many other forms of pruritus. The results are usually excellent on a small series of cases. However, the type of severity of the pruritus is not always well described and the presence or absence of anorectal disease is not mentioned. Table 1 summarizes some results published on the use of three ointments.

It is of interest to note that continued application of the ointment in the case of topical hydrocortisone was necessary in the series of Alexander. Sulzberger<sup>7</sup> states that there is no contraindication to the application of topical hydrocortisone to about one-eighth of the body surface for as long as eight months. No allergic sensitization has been noted.

Robinson and Robinson studied the use of various vehicles for the cortisone ointment and found no preference. Significantly, they stated that in *all* instances in 172 cases, relapse occurred when therapy was discontinued.

It seems to me that these authors have convicted themselves out of their own mouths, for certainly a treatment which requires continuous application is unsatisfactory, if it can be avoided. It is therefore suggested that these ointments only be resorted to when the previously described regime has been unsuccessful, and any anorectal disease has been corrected.

Cases which do not respond to the simple treatment outlined, and in general *all* cases with anorectal disease require further treatment. Diagnostic procedures are carried out along with a detailed physical examination if this has not been performed. Treatment of the specific disease goes without saying. In the case of anorectal lesions, proper surgery along with the outlined therapy will meet with success.

A few principles of rectal surgery might be emphasized. Since itching is often due to discharge, conditions such as cryptitis, hypertrophied anal papillae, and fissures are frequent offenders. Since there is also a psychogenic factor in most cases, relief of sphincter spasm by superficial sphincterotomy is felt to be advisable. All rectal surgery is designed to provide adequate drainage, and postoperative cleanliness, especially by the use of sitz baths, is mandatory. The twice daily application of mercurochrome is an excellent agent for healing wounds.

There remains a small group of patients who will require surgery in the absence of any apparent exciting factor or systemic disease. For this group there is a wide variety of operations, most of which are aimed at destruction of the nerve endings. These consist of undercutting of the skin, alcohol or other subcutaneous injections, tattooing with mercuric sulfide, etc. Detailed descriptions may be found in any good textbook of rectal surgery.

Pope points out that the treatment of pruritus ani in pregnancy differs because the etiology in these cases is a combination of anatomical features. These are a sagging of the pelvic floor which leads to in-

Table I

| Ointment                | Author                | No. of Cases | Marked Relief | Moderate Relief | Mild Relief | Total in Per Cent |
|-------------------------|-----------------------|--------------|---------------|-----------------|-------------|-------------------|
| Topical hydrocortisone  | Rein                  | 21           | 9             | 4               | 2           | 71.9              |
| "                       | Becker                | 160          | 110           | 29              |             |                   |
| "                       | Alexander             | 29           | 26            |                 |             |                   |
| "                       | Robinson and Robinson | 50           | 45            |                 |             | 90                |
| "                       | "                     | 172          | 144           | 6               |             |                   |
| "                       | Sulzberger            | 13           | 5             | 5               | 1           |                   |
| Tronothane <sup>1</sup> | Schwartz              | 9            | 6             | 3               |             | 100               |
| Quotane <sup>2</sup>    | Ramsey                | 24           | 9             | 13              | 2           | 100               |

<sup>1</sup>Tronothane is the trade name of Abbott for (B-dimethylaminethoxy) 3-n-butylisoquinoline hydrochloride.

<sup>2</sup>Quotane is the trade name of Smith, Kline and French for dimethisoquine hydrochloride.

fection and metabolic, hormonal and reflex changes, some of which produce psychosomatic and emotional disturbance. He feels that hypoproteinemia plays a part. Treatment includes a diet to combat the hypoproteinemia, a low fat diet but one rich in, and supplemented by, vitamins A and D, thyroid substance in small doses and acidification of the urine. Locally he does not give douches or tampons but stresses cleanliness and measures to combat the infection.

#### Illustrative Cases

##### (1) Good Response to Simple Therapy:

E.E., No. 15028. This 38 year old, white male was seen on February 6, 1954, with a history of pruritis since the age of 12. There had been some periods of freedom from symptoms. Recurrence in the army was treated with X-ray and this gave him several months' relief. History was otherwise non-contributory.

Physical examination showed marked perianal excoriation and deepening of the skin folds. There were fair sized internal hemorrhoids and some papillitis on limited anoscopic examination.

A list of instructions was given him and a prescription for the phenol and menthol ointment. On his subsequent visit two weeks later the patient estimated "almost 100 per cent relief except when applying the ointment."

According to his wife, he no longer scratched in his sleep. No change in treatment was recommended and he has not returned. Patient was reached by phone on October 21, 1954, and stated that he still had almost 100 per cent relief, but had renewed the prescription for the ointment for an occasional mild episode of itching.

P.D., No. 3559. This 48 year old, white woman had a long history of itching. Bowels were regular and there was no rectal pain of protrusion of mucosa. There was a history of hemorrhoids which had been "cut off."

Examination showed typical excoriation, redundant skin and marked cryptitis.

Oil enemas and the usual instructions were given. The patient was told that she would probably require surgery later for complete relief. However, on returning one week later, February 2, 1954, she stated there was almost complete relief and that she "felt like a different person." On last contact by phone, October 22, 1954, she states that almost complete relief has persisted.

##### (2) Good Response Food Relationship

S.B. No. 153. This young male had a two year history of pruritis. He stated that the itching was worst following meals with spiced foods. When first seen, he showed very marked excoriation, lichenification and deepening of the skin folds.

He was seen approximately three weeks later and estimated that he was relieved 75-85 per cent.

He has not returned and we have been unable to reach him. The local improvement when last seen was remarkable.

H.W., No. 13672. A 25 year old salesman complained of itching of four months' duration. There was some venous congestion but there was no actual hemorrhoids. Some excoriation was noted at the 4 o'clock area which was near the anal verge.

When contacted October 27, 1954, his wife informed me that he remained well except when he ate spiced foods such as chili or spaghetti with spiced sauce. Definite exacerbation occurred at such times.

##### (3) Systemic Cause Improved:

H.W., No. 3412. A 47 year old, male was seen for an acute upper refractory infection. A history of pruritis of unstated duration was elicited. Examination showed very deep folds and excoriation.

On return in one week there was marked improvement on all counts. The urine showed 3 plus sugar and there was familial history of diabetes in a brother, mother and maternal grandmother.

Dryness of the mouth was admitted but healing of sores was rapid and no polyuria had been noted. Blood sugar was 273 mg. per cent. He was advised regarding a diabetic diet but did not return for follow-up.

When contacted on October 27, 1954, he stated that he had occasional slight itching, but "not too much." He was advised to secure further treatment for diabetes.

##### (4) Case Requiring Surgery:

F.M., No. 6185. A 47 year old, white female with a long history of pruritis, had findings on the original examination that were suggestive of cryptitis.

Fifty per cent relief was claimed on the first return visit (two weeks). Olive oil enemas were added to the regime with no further relief. The patient was admitted to hospital in December and underwent surgery consisting of hemorrhoidectomy, cryptectomy, excision of a wedge of perianal skin and undercutting of other areas. The hemorrhoids were small and no surgery would have been indicated in the absence of pruritis. Postoperative course was uneventful and when last seen two weeks following operation, healing was almost complete and only slight itching, different from the original complaint, was noted. Patient was seen recently and relief has been maintained.

#### Summary

(1) A brief review of the etiology and physiology of pruritus ani has been given and a simple approach to treatment suggested without detailed laboratory investigation unless specifically indicated.

(2) Cases are presented to indicate response in the types needing and not needing surgical treatment.

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## STAFF CONFERENCE

### Vanderbilt University Hospital\*

#### Cardiospasm

DR. WILLIAM R. CATE, JR.: The subject for discussion today is cardiospasm. The syndrome referred to has had applied to it many other names. This confusion in terminology revolves around the confusion as to etiology of the condition. I think it might be of some help to define briefly two of the most widely used terms which have been applied. *Achalasia* refers to the inability of a muscular orifice to relax beyond its normal resting state. On the other hand *cardiospasm* refers to persistent contraction beyond the normal resting state.

The etiology of cardiospasm has remained undetermined over the years. It is questionable whether the problem is basically a neuromuscular one. Some investigators have likened cardiospasm with mega-esophagus to Hirschsprung's disease. This theory is difficult to justify if only on the basis of the relatively late onset. A high vagotomy in cats, on the other hand, will produce the clinical picture of achalasia. This can be prevented under the same circumstances by the performance of a celiac sympathectomy. These experimental findings would tend to substantiate somewhat the neuromuscular theory. Furthermore, the resistance to the passage of food is not great. Abnormalities of motility in the upper esophagus in addition to the terminal esophagus have been demonstrated by motility studies in patients with cardiospasm. Furthermore, on histological examination of surgical specimens there has been noted some degeneration of the ganglion cells. That, however, appears to be entirely a result of inflammatory processes. It is debatable, therefore, whether this degeneration with a resultant relative lack of ganglion cells is cause or effect. At any rate, it probably explains the fact that spontaneous regression of the well developed clinical picture rarely occurs. Dr.

Shull will discuss further the history, diagnosis, and medical management of cardiospasm.

DR. HARRISON J. SHULL: The disorder which we call cardiospasm is not a new one for Willis described it in 1679 and quoted the records of treatment of that particular case by various measures of dilatation with some success over a four year period. Von Mikulicz is credited with being the first to ascribe the term cardiospasm to this condition in 1882. It was he who first postulated that there exists no organic obstruction in the lower end of the esophagus but rather that this condition depends upon some disturbance of physiologic mechanism. Hurst in 1913 said that the condition is due to failure of smooth muscle to relax. He coined and ascribed to the condition the term *achalasia*, derived from the Greek words "a," meaning "not," and "chalsis," relaxation.

Dr. Cate has mentioned the currently two most popular concepts concerning the cause of this disorder: spasm at the cardiac end of the esophagus, and failure of smooth muscle relaxation at the cardia. He has also mentioned the disturbed neuromuscular component which is presumed to exist. Another concept strongly supported in some fields has to do with the dysfunction of the diaphragm producing a pinch cock mechanism at the hiatus where the esophagus passes through the diaphragm. More recently in some rather interesting work at the New York Hospital Wolfe and Almy have demonstrated to their satisfaction, by balloon studies, that a state of hypermotility of the esophagus somewhat different in its mechanism from that of spasm of the cardia may be the essential mechanism. The fact that we have so many as yet unproven theories demonstrates to some extent our lack of knowledge in this field.

Now let us mention some of the clinical aspects of this disorder. It is characterized by three or four rather typical symptoms and one or two rather typical objective findings.

Most patients complain of pain. This pain may be either epigastric or substernal. On occasions it may radiate to the neck. Rarely does it radiate to the back. It may be colicky. It may be only moderate in degree or

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extremely severe, demanding opiates for its relief. It may be rather continuous in character in spite of its colicky nature, and so may last over a prolonged period of time. Characteristically, however, it comes in spasmodic attacks and disappears only to return again.

The second prominent feature is difficulty in swallowing or dysphagia. Characteristically these patients complain of swallowing liquids with greater difficulty than solid foods. The liquids which seem to disturb them most are those which produce some irritant effect to the esophagus; especially do cold substances seem to evoke the symptoms quite promptly. Of the coarser, solid foods things like popcorn and peanuts seem to produce greater difficulty than do the softer foods.

The third characteristic symptom is regurgitation. This regurgitation is apt to occur at night. It is quite apt to occur, particularly in a patient who has had the disorder for any considerable period of time, after the patient has gone to sleep. It may be actually an unconscious rolling back of material in the dilated esophagus onto the pillow and under such circumstances may be aspirated into the lung. Also characteristic of cardiospasm is the regurgitation of food which appears not to have passed into the stomach. On the other hand from time to time material may be regurgitated which clearly has been in the stomach, suggesting that the obstruction is not complete. Of importance in connection with regurgitation are respiratory symptoms which occur when there has been pulmonary involvement, particularly pneumonitis and lung abscess. A respiratory difficulty of a different character may arise from time to time because of the filling of usable space within the thoracic cage by the greatly dilated esophagus and the pushing aside of lung tissue with decreased ventilatory space.

Objective findings of importance involve chiefly the X-ray or the esophagoscope or both. Physical examination is apt to give one very little help in the diagnosis of this condition although on occasions one can percuss an enlarged mediastinal area of dullness. The condition is demonstrated to be present when, on swallowing barium, the

X-ray reveals a hugely dilated esophagus or one, though not so dilated, ending in a typical fusiform, smooth obstructive area at the lower end of the esophagus. In addition, tortuosity of the esophagus, which may occur in the later stages of this disorder, is also characteristic. On esophagoscopy one commonly finds a narrowing of the lower end of the esophagus, and often a surprising lack of resistance to passage of the scope through this area of narrowing. This behavior of the area of narrowing in itself is highly suggestive of a benign condition rather than a malignant one. Some believe that the use of the esophagoscope is not necessary. I think most of us here believe that one should be very certain that carcinoma doesn't exist in the area of narrowing; that the use of the esophagoscope is therefore warranted in any patient who has an obstructed area at the lower end of the esophagus. The differential diagnosis should include in addition to carcinoma of the esophagus several other entities. Cardiospasm may be confused with tumors of the mediastinum, particularly if one depends only on the conventional film of the chest. The fluoroscopic observation of swallowed barium thus becomes most important. One should also differentiate this disorder from hernia, particularly of the para-esophageal type and, of course, from benign strictures of the esophagus.

Two patients who have been followed in the combined Medical-Surgical Outpatient Service may emphasize some aspects of this problem. The first one is actually a pediatric patient whom Dr. Christie and his group were good enough to ask us to see. A boy of 11 years from Savannah, Tenn., had a year's history of vomiting and of regurgitation of food at night. He had had no pain and complained of no difficulties in swallowing. He had also developed a chronic cough. He had lost much weight during this period of time. He presented another feature of this disorder that is most important, namely, a disturbed emotional pattern. He would not cooperate at all; was extremely recalcitrant. In fact he was withdrawn to the point where he would not talk to the examiners who handled his problem. He was sent into the hospital



with the diagnosis of a mediastinal mass because of the appearance of the mediastinum on a conventional chest X-ray similar to the one which you see here. This area of density in the mediastinum was suspected of being esophagus by those who saw this film in our X-Ray Department and a swallow of barium quickly dispelled the idea that it might be tumor. Following the barium through the esophagus one can see in these films the smooth fusiform narrowing characteristics of cardiospasm (Fig. 1). One

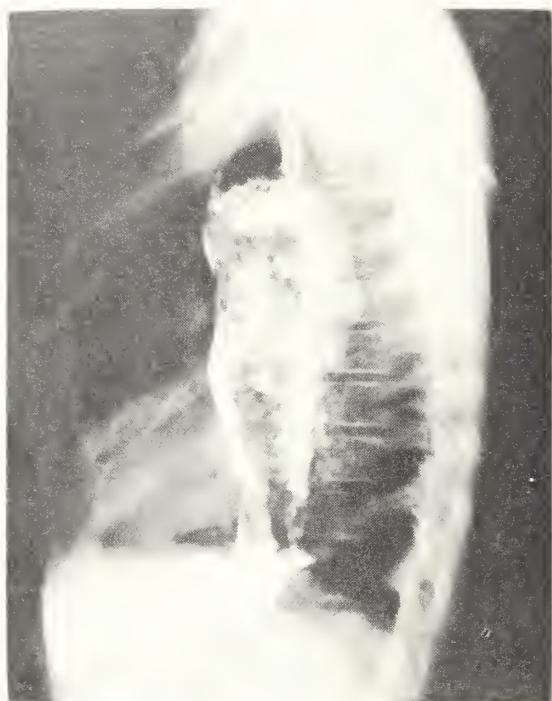


FIG. 1

can also see the smooth and gradual dilatation of the esophagus above it. This patient was treated by dilatation of his esophagus in a manner which I will describe in a moment. He ceased vomiting and regurgitation at once and gained some 15 pounds in three months. When last seen he was getting along well although by no means free from his entire problem. It has been very difficult to get him back to the clinic to talk with him about the problem and we have only 2 or 3 post-dilatation visits from him.

The second patient is a 62 year old colored woman who was admitted in a stuporous condition on the Medical Service. The diagnosis of cardiospasm was rather fortuitous. As demonstrated here (Fig. 2-A) the esophagus is huge and dilated and comes again to a fusiform, smooth area of narrowing. An effort was made to treat this patient by dilatation. We were fortunate enough to get the dilator in place as seen by the X-ray (Fig. 2-B) but her dysphagia was not relieved by the dilatation. An effort to dilate the constricted area on a second occasion was met with so much difficulty that it was decided to treat her surgically. She had a Heller procedure carried out. She, too, we have not been able to get back to the clinic. A letter from her a year later in Indiana indicated that she had gained weight and was doing nicely.

One word or so about medical or nonsurgical management of these patients. I think



FIG. 2-A

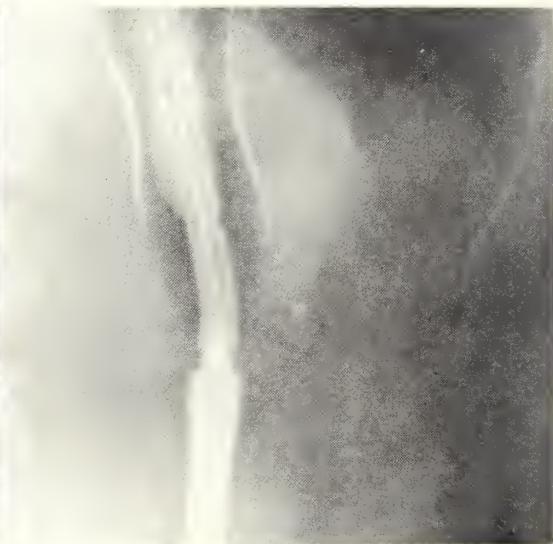


FIG. 2-B



it should be pointed out that we have no drugs which are really effective. The use of such drugs as atropine, Banthine, or various drugs which affect the vagus nerve or which are said to be antispasmodics apparently produce very little improvement in these patients. The use of dietary management produces about equally little improvement. About the most that can be said about dietary therapy is that one should perhaps advise these patients to avoid excessively cold substances of any kind and that those things that are exceedingly rough should be left out of their diet.

The nonsurgical procedures which have received most popular attention are those aimed at dilating that portion of the esophagus which is constricted. These have turned around the use of either bougies or a dilator instrument. The ones which we have used here in the clinic are laid out so that those who are interested may see them. One type of mercury filled smooth catheter devised by Hurst and used for dilatation by the simple procedure of having the patient swallow it. It is of particular value if the patient has repeated bouts of obstruction and one wants to attempt to let the patient carry out some procedures of dilatation at home. In other clinics such an instrument is used rather widely, I understand. We have had only limited experience with it here. A somewhat safer and more effective means of dilating the esophagus is that of passing a bougie, in this instance an acorn-tipped metal bougie preceded by a flexible tip and guided over a string which the patient has swallowed on the day before the procedure. If one has a string with which to guide him such an instrument can be passed with relative safety through the constriction into the stomach of a patient who has cardiospasm. If there is any major resistance to passage of such an instrument at the area of the constricted cardia no excess pressure should be placed upon the instrument. The third, and perhaps the most effective way, of dilating the constricted area is to pass into that area a balloon which can be distended. There are two types, one which uses air and another which uses water. This is the type of pneumatic balloon which is in the cardiac end of

the esophagus in the patient whose films were shown previously. (Fig. 2-B.) It is kept in place for about 5 to 7 minutes. The pressure is then released and the instrument removed. Those patients on whom we have used this instrument successfully in the clinic have gotten by with one or two dilatations. Approximately 70 to 80 per cent of patients who have this disorder will respond to nonsurgical dilatation. There are another 20 to 30 per cent who will not respond to this procedure and will need surgical treatment.

DR. CATE: Thank you, Dr. Shull. Dr. Francis, I wonder if you would care to comment further on the radiological diagnosis of this problem.

DR. HERBERT C. FRANCIS: This condition is one which is generally diagnosable by a plain chest film alone. In my experience cardiospasm with mega-esophagus is the only thing that will give a long, slightly elliptical outline, which extends from the upper part of the chest as high as the inlet or even beyond down to the diaphragm. There may or may not be a fluid level. The density overlaps the lung field. You will notice that it is always along the aorta on the right side of the mediastinum that it is visible. We cannot make it out on the left side of the spine even in the lower part of the plain film. After a little barium has been added there isn't any question whatever about the mass being the esophagus. I have never had the opportunity to see one of these cases in the presence of a right-sided aorta. In such an instance I think perhaps the reverse might be true. When there are lesser degrees of dilatation we do not see this shadow of the esophagus on the plain film but a fluid level may be present. I think age is frequently a help. Younger people in their teens or twenties or thirties are apt to have cardiospasm and are much more apt to have very rapid wasting with it.

The degree of dilatation is of course tremendously variable. The length of time in which the dilatation occurs is also variable. I have seen one patient in the early sixties who came originally for dysphagia in whom we could find nothing in the esophagus or the stomach though she had definite symp-

toms. I had the opportunity to examine this patient on three separate occasions over a period of two years. At the examination one year after the initial one nothing was found. A temporary delay with what we thought was some spasticity just above the diaphragm was seen. She was treated at that time by the usual methods, which were not effective, utilizing various drugs in an effort to relieve spasm and alleviate the tension. I saw her again a year later at which time her cardiospasm was shown to be very slowly progressive. Dilatation was of mild to moderate degree in the lower two-thirds of her esophagus. She never got the degree of dilatation seen with more severe cases.

The sequence of events is first dilatation of the esophagus, then elongation with resistant tortuosity. This is due to the fact that the circular muscle fibers are involved before the longitudinal ones. The maximal dilatation and elongation is typically just above the diaphragm. The differentiation by X-ray between cardiospasm and carcinoma of the esophagus is in most instances not difficult. However, I would say that our biggest difficulty occurs not so much in differentiating primary carcinoma of the esophagus, which is most common in the middle third, as it does in differentiating carcinoma of the cardiac end of the stomach secondarily involving the esophagus. The latter may produce in some instances exactly the same appearance as that of a cardiospasm. There are some carcinomas which do occur in a fashion encircling the esophagus and in such instances the conical change which is considered so typical of the cardiospasm may result. It is impossible by X-ray examination alone to absolutely distinguish such tumors from true cardiospasm. It is foolhardy, from my point of view, to say that esophagoscopy and biopsy is not necessary. I think it is important regardless of your own conviction as to the diagnosis.

DR. CATE: Thank you, Dr. Francis. We have a case to present which we recently treated. First, I think it might be interesting to review very briefly the history of surgery of cardiospasm. Mikulicz in 1904 recommended the procedure of laparotomy and dilatation of the distal esophagus

through a gastrotomy. The results of that form of treatment are not available. Wendell in 1910 described a plastic procedure on the cardiac portion of the stomach and distal esophagus similar to the Heineke-Mikulicz procedure with a longitudinal incision, transverse closure. In 1910 Heyrovsky described esophagogastrostomy which was performed by making two longitudinal incisions, one in the distal esophagus and one in the fundus of the stomach, with an anastomosis between the fundus of the stomach and the distal esophagus. Sixteen cases treated in this manner were reported in 1925. Thirteen results were described as being good, three unsatisfactory. Since that time this series of cases has been added to considerably. In 1913, Heller described the extramucous cardioplasty, as it was referred to, which is similar to the Fredet-Ramstedt procedure for pylorospasm. Originally he made one anterior incision and one posterior incision through the muscular coats of the distal esophagus and proximal stomach down to the mucosa. In 1921, at the German Surgical Congress 21 cases treated in this manner were presented. Seventeen results were described as good, four unsatisfactory, with no deaths. This is, I think, a very good record for that particular era of surgery. In 1916, Gröndahl described a procedure which is similar to the Finney pyloroplasty. It consists of a U-shaped incision beginning on the esophagus and extending onto the fundus of the stomach with anastomosis between the two limbs of this incision. This procedure has been popular in this country.

The technics which were used in this country until recent years were mostly of the plastic type similar to those first described by Heyrovsky or Gröndahl. One of the major difficulties related to these procedures has been the subsequent development of esophagitis. The Heller procedure was used fairly widely in Europe but never gained much popularity in this country until very recent years. The data up to the present time would seem to indicate that the results utilizing this procedure have been very good with a definite reduction in the incidence of esophagitis.



**Case Report.** The patient was admitted to the hospital in October, 1954. She was a 75 year old, white female. Her history was of 25 years duration with progression in severity of symptoms throughout that period. Her symptoms had consisted primarily of dysphagia, regurgitation, particularly in the supine position, and a gradual onset of episodes, lasting 2 to 3 days, during which it was impossible for her to retain either solids or liquids. She noted shortness of breath at times late in the course of her illness along with hoarseness and wheezing.

She was first seen elsewhere 10 years prior to admission at which time a fullness was noted in the lower cervical region. It was thought that she possibly had an esophageal diverticulum. However, X-ray studies revealed a markedly dilated esophagus with a loop extending into the right upper chest. The distal esophagus was described as being compatible with cardiospasm. Unfortunately, those films have been destroyed and are not available. It was recommended that she have treatment which she refused. She stated at that time that she had lost approximately 70 pounds over the previous 15 years. At the onset of her illness she had been extremely obese.

During the subsequent 10 years her symptoms progressed in severity. Her admission to this hospital was precipitated by complete inability, for the 2 or 3 days prior to admission, to retain solids or liquids, and marked shortness of breath. She said that she had lost another 70 to 80 pounds. At the time of admission to the hospital she was unable to lie flat in bed. The veins in her neck were distended in the sitting position. There was again a fullness noted in the lower cervical region, particularly on the left. This mass was soft to palpation. As one might expect she exhibited marked dehydration and appeared acutely and chronically ill. The chest was described as being clear to percussion and auscultation.

X-ray studies were performed. She was able to take only two or three swallows of barium. This tremendously dilated esophagus was visualized (Fig. 3-A). It was felt at the time of this examination that she had an esophageal diverticulum in addition. Fluoroscopically this tremendous pocket was noted to fill and then a small amount of barium trickle out of it. We felt that the problem of primary importance which she presented was the relief of her superior mediastinal obstruction. We were further influenced in our approach by the radiological diagnosis of a diverticulum.

At operation a long collar incision was made. The right sterno-mastoid muscle was divided. It was possible to free up the tremendous loop of esophagus from the right lateral chest wall and the mediastinal structures. We realized then that she had no diverticulum. A Levine tube was passed, barium instilled, and a portable X-ray made (Fig. 3-B). It revealed that what the situation had actually been was that of a large dilated loop of esophagus adherent to the right chest wall in its superior aspect. It had actually functioned as a diverticulum in that the lower portion of that loop had bulged downward.

A separate upper midline incision was made in the abdomen. The distal esophagus was very easily exposed in this particular individual. A gastrotomy was performed in the proximal stomach. When we first inserted our finger into the distal esophagus there was a very distinctly palpable circular band of muscle which, as the anesthesia was deepened, we could no longer palpate. We did a Heller type of procedure, dividing the distal esophageal muscularis and the proximal muscularis of the stomach over a distance of about two and one-half inches. A large amount of barium and retaining food spilled out in the upper abdomen in spite of attempts at suction. We were unable to insert a Levine tube from above. It was necessary to pass one from below and in a

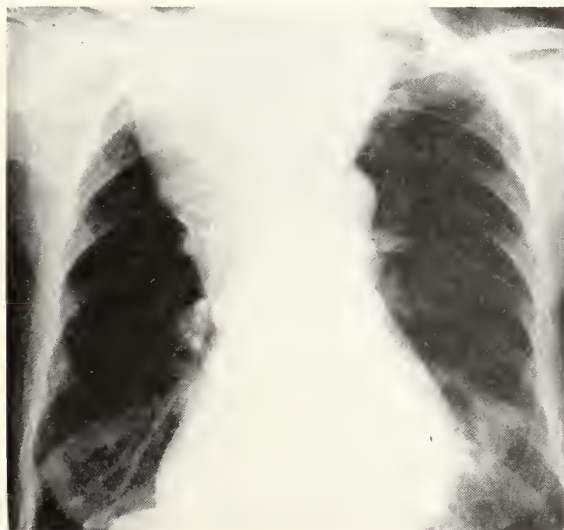


FIG. 3-A

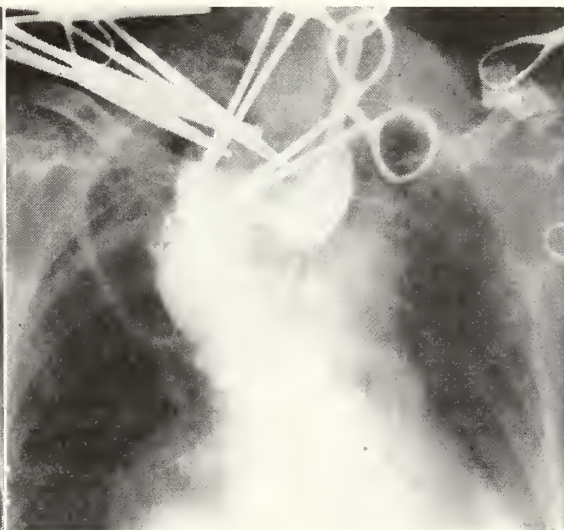


FIG. 3-B



retrograde manner pull another down into the stomach. Large amounts of penicillin and streptomycin were placed in her upper abdomen and mediastinum.

The patient did very nicely postoperatively. The Levine tube was removed on the third postoperative day and she was started on liquids by mouth. She was taking selected soft foods by the sixth postoperative day. The films which you see here were made on the eighth postoperative day. As you see she still has a very large loop in her upper chest. Her distal esophagus was emptying nicely. (Fig. 4.) We do not have any subsequent follow-up films.



FIG. 4

We have heard from this patient recently. She gets along very well. She does have some fullness and slight sensations of choking at times which she can relieve by proper positioning. Her case certainly represents an extreme example of the problems that these patients can present. We are going to attempt to get along, insofar as possible, without any further operative procedures. I wonder if Dr. Daniel will comment on what he thinks will happen now to this tremendously dilated esophagus.

DR. ROLLIN A. DANIEL, JR: I think, Dr. Cate, that this patient's esophagus will remain markedly dilated and atonic. Obstruction has been present for such a long period of time that an effective peristaltic mechanism will in all probability never be regained and the esophagus will continue to act as a receptacle or pouch. Relief of symptoms will be largely on the basis that food is now permitted to drain from the dilated

esophagus into her stomach. The fact that she is not completely relieved of her symptoms is no surprise to me. I am beginning to believe that the best we can hope for in the majority of these people is an improvement in their symptoms rather than complete relief. With marked dilatation of the esophagus, which has been present over a long period of time, and which results in the retention of saliva and mucus and food in the esophagus during a large part of the time, ulceration of the esophagus will cause the formation of much scar tissue which in turn will result in an atonic, leathery esophageal wall. In a few of these individuals one may find it impossible to do the Heller procedure because at the point of obstruction the muscularis has been replaced by scar which is so adherent to the mucous membrane that the lumen must be entered if relief of the obstruction is to be accomplished. One may be faced with the necessity of doing a more radical procedure, that is, removal of the area of stricture or resorting again to the Mikulicz type of esophago-gastrostomy which we know now to be dangerous. There may be regurgitation of gastric juice into the esophagus following the Heller operation but not to the extent or degree that it takes place following actual anastomosis of the stomach, by one method or another, to the esophagus. If the latter type of procedure is performed, the patient may then develop a marked esophagitis and we have in a few individuals seen this occur within a few months after this procedure and to the extent that peptic ulceration may result with diffuse hemorrhage from the lower esophagus. The Heller extramucous cardioplasty is preferable, therefore, and is the operation of choice at this time. We have performed subtotal gastric resection in two cases where esophageal peptic ulceration has occurred following an anastomosis between the esophagus and stomach and in a third patient vagus resection with gastro-enterostomy has given a good result.

DR. CATE: Thank you, Dr. Daniel. Dr. Scott, I wonder if you would have some further comments on the subject.

DR. SCOTT: Certainly this is a most confused subject, not only the subject of cardiospasm but the esophagitis which so fre-

quently is encountered after the many operative procedures that have been done for its relief. I will simply demonstrate my own confusion to you in what I have to say. The Heller procedure, unlike the Gröndahl, the Heyrovsky, and the Heineke-Mikulicz type of esophagocardioplasty, seems to have less of an incidence of esophagitis following its use as Dr. Daniel has pointed out. The most impressive series which demonstrates this point is that of Rodney Maingot who recently described a group of 45 patients with cardiospasm treated by the Heller extramucous cardioplasty with very good results and with no significant incidence of postoperative esophagitis. The difference between the Heller procedure and the other forms of operation that have been used for cardiospasm may be due to, as Dr. Daniel has pointed out, the fact that there is less tendency to regurgitation of acid-peptic material into the esophagus when the Heller procedure is used than in the case of the others. This concept has led Dr. Wangenstein to suggest that the etiology of cardiospasm or achalasia is esophagitis of a regurgitant nature, and he has brought another term into the already confused nomenclature used in connection with this disorder, namely, esophageal dystonia. He has proceeded to treat patients with achalasia by resecting the acid-bearing portion of the stomach along with the distal esophagus and carrying out after the resection anastomosis between the proximal esophagus and the antrum of the stomach. I don't have any information as to what the subsequent course of these patients has been, but it is interesting that Dr. Cross who worked with Dr. Wangenstein has reported on the histologic studies of specimens resected by Dr. Wangenstein and his associates with this acid-regurgitant hypothesis in mind. In seven of these patients treated by the Wangenstein resection method, the findings of destruction or absence of ganglion cells in Auerbach's plexus in the esophageal wall was uniformly present. Cross points out that in all the true surgical specimens and in two autopsy specimens that were studied, the entire esophagus was involved in a submucosal inflammatory process with neurocytolysis in Auerbach's plexus and resulting diminution in

the number of ganglion cells. This makes you wonder if cardiospasm is somewhat like congenital megacolon.

Acid-peptic regurgitation is not the sole etiological factor in esophagitis. We see esophagitis in individuals after total gastric resection when there is no acid and no pepsin present. Esophagitis can be produced experimentally by ligation of the pylorus with or without the added stimulus of histamine. It is known to occur as a terminal affair in patients with uremia. It may occur as a variant of Cushing's ulcer or Curling's type of phenomenon. There seem to be many different etiological possibilities for esophagitis. Another confusing thing that has come into the picture recently is an article in this month's issue of Archives of Pathology by Col. E. D. Palmer, at Walter Reed Hospital, who has a very interesting paper on "Peptic Esophagitis," in which he has studied some sixty-odd biopsy specimens obtained by esophagoscopy in patients with esophagitis. On the basis of his histologic studies he concludes that the acid-peptic regurgitation concept does not explain the changes that are found and he wants to throw it out completely. He reports that the esophageal epithelium was perfectly normal in most of these patients but there was a subepithelial inflammatory process present and that the mucosa drops out without showing any evidence of inflammatory change at all. So he would discard the acid-peptic regurgitation idea completely.

It ought to be pointed out that Dr. Alvin Merendino at the University of Washington, in Seattle, has recently been doing some very interesting work on this subject and has been treating esophagitis by a combined method which includes reduction of acid in the stomach by vagotomy and Finney pyloroplasty and resection of the constricted segment of lower esophagus, with restoration of esophagogastric continuity by swinging up a limb of jejunum which is interpolated between the proximal esophagus and the stomach. He has pointed out very clearly, and he has a lot of experimental backing for this, that under these circumstances esophagitis or jejunitis will not oc-

cur. The jejunum in this position will function very satisfactorily without developing ulcers or inflammatory change. All in all it would seem to me at the present time that the Heller procedure is probably the procedure of choice to use in cardiospasm, but at the same time one doesn't want to accept this as the perfect answer because there have been cases of esophagitis which have occurred after the Heller has been used.

DR. CATE: Thank you, Dr. Scott. Dr. Shull, did you have anything else to add?

DR. SHULL: I have already stated how I feel about the problem. I would like to know what the surgeons think. About 70 to 80 per cent of these people will respond

fairly well to the procedure of dilatation by one or another means.

DR. CATE: I would think all of us will agree that the first attempts at treatment in the usual case of cardiospasm should be along the lines of dilatation and that surgery should be reserved for those who do not respond. Some neglected cases will require surgery initially. Attempts at treatment by dilatation should probably not be carried on over too long a period of time. I don't think that it is possible to establish a definite time limit. This will vary depending on the amount of relief obtained and the frequency of dilatations required in the individual case.



## CLINICOPATHOLOGIC CONFERENCE

### Methodist Hospital\*

*First Admission.* A 37 year old, white female was admitted to Methodist Hospital on July 7, 1952, complaining of pain in the right side, radiating into the right leg. The patient stated that she had been well until February, 1952. Since that time her discomfort had been constant except for a period of about three weeks at one time. The pain was not aggravated by movement. Menstruation was not affected but the pain seemed less severe during menstruation. She had two children.

Examination revealed a small mass in the right lower quadrant of the abdomen, which was extremely tender and quite painful on manipulation. No rectal examination was recorded. No lymph nodes were palpated. The temperature, pulse and respirations were normal.

Laboratory Data: RBC 4.27 million, Hgb. 11 Gm. (73%), WBC 12,500, 68% segmented cells, 4% bands, 24% lymphocytes, 3% monocytes, 1% eosinophils. Urine: acid; sp. gr. 1.022; albumin and sugar negative; microscopic, occasional RBC. Kahn and Kline tests were negative.

The patient was operated upon July 8, 1952.

*Second Admission.* This was on December 15, 1952, for a recurrence of the previous symptoms, apparently gradual in onset.

At this time a "palpable mass in the abdomen" was described as being present in the umbilical region and extending into the right lower quadrant. A cystoscopic examination revealed good excretion of indigo carmin from each ureter and the bladder was normal in appearance. A retrograde pyelogram was done. T. 99, P. 76, R. 20 on admission.

Laboratory Data: RBC 4.27 million, Hgb. 12.5 Gm. (83%), WBC, 6500 54% segmented cells, 46% lymphocytes. Urine: alkaline; Sp. Gr. 1.010; albumin trace; sugar negative; microscopic: WBC 8-10, RBC 3-5/h.p.f. (catheterized); urobilinogen negative.

A second operation was performed on December 19, 1952. Following this, the patient remained in the hospital until January 11, 1953, when she was discharged apparently in satisfactory condition. During hospitalization she received twelve 500 cc. units of blood, eight of them during the operation.

*Third Admission.* She was admitted on February 11, 1953, complaining of anorexia, persistent vomiting and burning on urination. For the previous several weeks she had anorexia and had begun vomiting recently.

There was mild generalized tenderness of the abdomen, extending into the flanks. Cystoscopic examination showed marked cystitis. Urine from

the left ureter contained "much pus." A retrograde pyelogram was done.

Laboratory Data: RBC 4.4 million, Hgb. 13 Gm. (86%); WBC 8500, segment cells 80%, bands 7%, lymphocytes 9% monocytes 4%. Urine: alkaline; Sp. Gr. 1.015; albumin 2 plus; sugar negative; WBC and RBC too numerous to count. Cultures of the urine yielded *E. coli*, alpha hemolytic streptococci and paracolon coliforme. Total serum protein was 5.9 Gm.%, A. G. ratio 0.9/1; chlorides as NaCl 580 mg. per cent.

Following conservative therapy, the patient was discharged in an improved condition on February 21, 1953.

*Interim Course.* She was next seen by her physician on April 27, 1953, at which time she had gained 40 pounds and had no complaints. In January, 1954, she began to complain again of pain in the right lower quadrant of the abdomen but examination revealed no evidence of residual disease. In March, 1954, she complained of pain in the right lower quadrant, severe enough to require regular doses of Empirin and codeine. At this time a 3-4 cm. movable nodule was palpated on vaginal examination. She was examined several times during the succeeding months and the nodule increased in size, accompanied by increasingly severe pain.

*Fourth Admission.* This was on August 20, 1954. Another operation was performed on August 23 and the patient was discharged on August 31, 1954. During the operation she received two 500 cc. units of blood.

DR. E. N. STEVENSON: We have been given a very interesting case, a difficult diagnostic problem. If the problem had been easy, we would not have been offered the case. I suspect the diagnosis is not rational which fact may explain choosing me as discussor.

The clinical history and physical findings will help us very little. There is no mention of the patient's general appearance or occupation but I suppose it is more logical to assume she is a housewife than the bearded lady in the circus. The key to the solution of the case appears in the number of operations. With modesty, I would like to assume the character of the surgeon or surgeons handling this case,—maybe not with equal surgical skill but at least equal surgical judgment. This approach will also serve another useful purpose. If my diagnosis is too far off base, then to a certain degree "the monkey will be off my back."

This 37 year old female was admitted July 7, 1952, with a pain in the right side of more than five months' duration. The complaint

\*From the Methodist Hospital, Memphis, Tenn.

of pelvic pain radiating into the lower extremity, especially the right one, is so common that I doubt it has appreciable significance (I am sure easily 25 per cent of pelvic aches and pains are associated with extension or radiation into the lower extremities). This may be a red herring.

The only positive physical finding is a small mass (and how large is "small"? in the right lower quadrant of the abdomen. The statement is made: "No rectal examination done." We are left in doubt regarding pelvic examination. May we assume the mass is pelvic in origin? The law of averages would favor this possibility.

When the first operation was anticipated, the surgeons undoubtedly considered numerous diagnoses as: appendiceal abscess, ovarian tumors, torsion ovarian cyst pedicle, ectopic pregnancy, pedunculated fibroid (degenerated or twisted), adenocarcinoma of the uterus, persistent corpus luteum (cyst or hematoma), endometrioma, retroperitoneal tumors, tumors of bowel and appendix (carcinoma, carcinoid with carcinoma, lymphosarcoma, leiomyoma or leiomyosarcoma).

But this patient returned in December, 1952 for a second operation. Most of the above possibilities would not require or admit a second or third operation, so the possibilities are limited. The same symptoms have recurred, and a palpable mass without reference to the pelvis is described. It is significant that interest is now shown in the urinary tract but no gastro-intestinal X-rays, even to the bitter end, were made. I am prone to dismiss tumors of the bowel, such as carcinoma, carcinoid of appendix with or without carcinomatous changes, reduplication of bowel and numerous other conditions.

But this patient was considered a candidate for a second operation and we assume with knowledge based on gross pathology and probable microscopic pathology obtained at the first operation. In view of retrograde ureteral studies, there was anticipated surgery in close proximity or involving the right ureter or kidney. Considerable surgery can be done with the aid of twelve pints of blood (eight during actual operation) and we suspect this represents

an attempt at definitive surgery rather than palliation. Our consideration now is some form of ovarian malignancy or localized lymphoma or leiomyosarcoma. There is no mention of X-ray therapy which would have been the choice in palliation, rather than surgery for some ovarian tumors, and I doubt the surgeon attempted operation for residual ovarian malignancy after a delay of six months. The same would hold true for malignancy of a uterine tube.

The third admission deals with partial obstruction, probably ileus, secondary to urinary infection. Only the left ureter is mentioned. Maybe something happened to the right one. The X-rays we've just seen confirm the suspicion. The first retrograde pyelograms before operation No. 2 show the right ureter displaced laterally. The pyelogram after the second operation (on the third admission) does not reveal a right ureter. The missing previously displaced ureter suggests a retroperitoneal tumor. There is no evidence of bone metastasis.

In January, 1954, the word residual disease is used and this, in my experience, always implies malignancy.

In March, 1954, the first reference is made to pelvic examination when a 3-4 cm. movable nodule was palpated. This mass and pain increased for the next 4 to 5 months when we have the fourth admission and the third operation. You would think it logical that a third operation should offer something for the patient. Possibly some residual disease of a well localized, low-grade malignancy is present.

The discharge note on each admission is interesting: No. 1, no notation; air of hopelessness; No. 2, apparently in satisfactory condition; but obviously not; No. 3, in an improved condition, ?; No. 4, discharged, note of doom. Our reasoning has led us to believe something would be accomplished by a third operation but a "between the lines" impression suggests otherwise.

We have just about narrowed down the diagnoses to a low-grade, well localized retroperitoneal malignancy. The urologist might suggest some lesion related to right ureter; however, my guess is leiomyosarcoma or lymphosarcoma.

DR. WILLIAM W. TRIBBY: It seems to

me that Dr. Stevenson has given us a good discussion of this case, especially in view of the somewhat scarce clinical data which have been made available to him. As a matter of fact, he is very close to the diagnosis which is leiomyosarcoma, apparently arising in the retroperitoneal tissues. The tumor which was removed in July, 1952, was received in ten pieces, the largest measuring 6 x 4 x 3 cm. They had a combined weight of about 124 Gm. The cut surfaces had the rather characteristic whorled appearance of a leiomyoma. At the second operation in December, 1952, the uterus with cervix, right tube and ovary and a firm, irregular, nodular mass were removed. The total weight was 420 Gm. The tumor mass was adherent to the right side of the uterus and the tube and ovary were included in it. Its cut surface was glistening and gray to yellow with hemorrhagic regions. At the third operation in August, 1954, another 420 Gm. mass was removed along with the remaining tube and ovary and a portion of the colon. The mass was multinodular and the nodules varied up to 4 cm. The cut surfaces were similar to those seen in the first specimen.

Microscopically, all of the sections have about the same appearance. The tumor is composed of elongated cells having nuclei which, for the most part are rounded at the

ends. There is much more variation in cell structure and staining than would be expected in a benign tumor. Mitotic figures are readily demonstrated. Most of the mitoses have what is considered to be a normal structure. Occasional tumor giant cells are present. I believe most any pathologist would agree that this particular tumor has a low grade of malignancy and that it has arisen from smooth muscle. However, one cannot categorically eliminate low grade fibrosarcoma or neurogenic sarcoma from consideration. These three tumors frequently resemble each other rather closely. I feel that special staining procedures do not greatly assist in their differentiation. As a matter of fact, I am sure that we all have too great a tendency to be satisfied with some sort of classification of a tumor when actually we may not be at all certain about its future behavior. There is a good possibility that the tumor under discussion may metastasize and kill the patient in this way. I know that Dr. R. R. Braund and Dr. J. M. Chisolm, who performed the last two operations, feel that not all of this tumor has been removed.

NOTE: This discussion took place on September 28, 1954. The patient was still living, without any serious complaints on February 15, 1955.



## President's Letter



DR. THOMPSON

When this reaches the hands of the readers nearly three months of a brand new year will have elapsed. A brand new year in which both the Congress of these United States and the Legislature of our own State

will have been in busy session. As this is written the President has already delivered his address on the health of this nation, to much of which we agree. However, he again lays great emphasis on the reinsurance plan he has advocated previously. Until the bill is introduced, we withhold our opinion, but if substantial change is not made, it again will be unsatisfactory and a definite step in the direction of federalization of the medical profession.

On the State level we have several important bills under consideration. Changes, or lack of changes, which will be of intimate interest to the medical profession. The Hospital Service of the Indigent, while a law of the State, is in dire danger of impotence because of the lack of implementation by the necessary funds, due primarily to the lack of interest by the Executive Branch of our government. The Ophthalmologists are to be congratulated on the passage of the new dispensing law. However, our legal friends have seen fit to introduce measures requiring physicians to testify in court. Since they make the laws, we are now subject to the whims and wishes of the various judges of our courts. This law may be directly responsible for the life or death of some individual. I hope it will not be those who have sponsored it.

After watching those at all levels who would legislate more controls of the medical profession, I am more convinced that it

is the duty of each physician, as a citizen, taxpayer, and civic-minded individual interested in the welfare of his home community, state and nation, to become personally interested in politics, and use the word politics in its highest meaning. By that we mean each physician should become interested in supporting and helping elect well qualified persons to public office.

Voluntary health insurance has definitely come of age. As of 1953, 50 million of our population were protected by Blue Cross, and over 28 million by Blue Shield. These numbers are growing by leaps and bounds so that in the not too distant future fully 70 per cent of our population will be covered by both plans. There still is much to be desired in both plans. Many elements of misunderstanding between policyholder, physician and hospital cause much unnecessary bitterness. Each of these episodes of misunderstanding cause a weakening of the chain by which the success of voluntary health insurance must exist. In our own state plan and our Blue Cross that which has caused many such incidents is those policies sold to groups which cover all existing conditions while most other groups have clauses excluding all pre-existing conditions. It is difficult for neighbors, both covered by what they believe to be the same Blue Cross, to have different interpretation of their benefits.

The education of the public along these lines we believe to be essential. But, before the teacher can teach, he must learn. It is mandatory for all physicians in Tennessee to fully acquaint themselves with the various benefits accruing to the policyholders. Early explanations save bitter arguments.

A handwritten signature in dark ink, appearing to read 'John Thompson', with a large, stylized initial 'J'.

# THE JOURNAL

OF THE  
TENNESSEE STATE MEDICAL ASSOCIATION

Published Monthly  
Devoted to the Interests of the Medical Profession of  
Tennessee

Office of Publication, 321-325 Doctors Building, Nashville,  
Tenn.

Acceptance for mailing at special rate of postage provided  
for in Section 1103, Act of October 3, 1917,  
authorized July 15, 1932.

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R. H. KAMPMEIER, M.D., Editor and Secretary  
Vanderbilt University Hospital, Nashville

## COMMITTEE ON SCIENTIFIC WORK

|                            |                             |
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MARCH, 1955

## EDITORIAL

### SCIENTIFIC PROGRAM FOR THE 1955 ANNUAL SESSION

In this issue appears the program of the scientific meetings of the Annual Session to be held in Chattanooga next month. The pattern seems set of three mornings of general sessions and a varied menu of scientific presentations for the three afternoons. Thirteen specialty groups are meeting this year with the Tennessee State Medical Association. Among the dozens of presentations scheduled the doctor has a wide choice of subjects in which he may be interested.

As we have indicated before on these pages, the Association and its general sessions must remain the core of interest for all of us. Our collective strength anchored in organized medicine is the very thing which makes it possible for us to engage freely in our interests in the auxiliary fields of specialization.

R. H. K.

### HYDROXYSTILBAMIDINE IN SYSTEMIC BLASTOMYCOSIS AND OTHER DISEASES

Systemic blastomycosis is one of the most serious of the fungus diseases and because of its relative rarity this disease is usually difficult to diagnose. It has been considered to be a highly fatal disease process which may become disseminated throughout the body involving the subcutaneous tissues, lungs, bones and joints and occasionally the central nervous system. The mortality rate in the systemic form of blastomycosis has been reported to be 92 per cent in patients who have been followed for two years or more. However, this mortality rate will certainly be lowered since the advent of therapy in this disease with stilbamidine and hydroxystilbamidine.

Stilbamidine and hydroxystilbamidine are members of the diamidine series of drugs found to have therapeutic use in blastomycosis and leishmaniasis. The therapeutic uses of hydroxystilbamidine and stilbamidine are similar, the main difference between the two being that the 2-hydroxy derivative is less toxic. Thus larger doses of hydroxystilbamidine can be given before signs of toxicity are manifested.

Stilbamidine was first successfully used in the treatment of systemic blastomycosis by Schoenbach et al, in 1951. Since then several authors have reported similar beneficial results. Recently three cases of systemic blastomycosis and one case of the cutaneous form of the disease have been successfully treated with hydroxystilbamidine by Snapper and McVay.<sup>1</sup> No untoward reactions were observed.

Successful treatment of American mucocutaneous leishmaniasis has been reported by Snapper with complete cure after two and a half months of treatment with hydroxystilbamidine. Previous treatment of kala-azar has also yielded good results.

Hydroxystilbamidine has a favorable influence on the bone pain of patients having multiple myeloma. Also, it appears that hydroxystilbamidine does not lead to tri-

<sup>1</sup>Snapper, I., McVay, L., and Schneid, B.: The Treatment of North American Blastomycosis with 2-hydroxystilbamidine. *Am. J. Med.* 15:603, 1953.

geminal neuropathy, as stilbamidine frequently does, and can therefore be given in larger doses than stilbamidine. The ultimate course of multiple myeloma is not altered by these drugs. Stilbamidine has been used successfully by Snapper in the treatment of actinomycosis. Results in the treatment of this disease with hydroxystilbamidine have not yet been reported.

For practical purposes hydroxystilbamidine is at present the drug of choice between the two because it is less toxic. In one series of 83 patients treated with total doses as high as 25 Gm. of hydroxystilbamidine, studies indicate little or no toxic effects. In another series of 21 patients, total doses up to 9.375 Gm. of hydroxystilbamidine were given without causing apparent alterations in the leukocyte and platelet count, proteinuria, renal function, liver function or neural function. Trigeminal neuropathy has not been reported after hydroxystilbamidine therapy.

The physician should be familiar with the side effects that may occur following hydroxystilbamidine administration and the precautions to be taken in giving this drug. Hydroxystilbamidine in solution is unstable when exposed directly to heat, sunlight or ultraviolet light. It is recommended that the dose of the drug be given intravenously in 200 cc. of 5 per cent glucose solution or sterile isotonic sodium chloride solution. The injection should be given by continuous slow drip over at least 30 minutes. The container should be protected from light. The solution may be injected intramuscularly when the intravenous route is not feasible, but this may cause pain at the site of the injection. The suggested dose is 225 mg. given intravenously at intervals of 24 hours. Because of the marked variation in the sensitivity of various organisms to hydroxystilbamidine, an exact total dosage cannot be predicted. The degree of improvement will frequently determine the total dosage. Total doses of 4.3 Gm. to 19.6 Gm. were given in the four successfully treated cases of systemic blastomycosis reported by Snapper and McVay.

Although serious reactions have not been

reported following hydroxystilbamidine treatment, one or several of the following symptoms may be observed during or immediately following its intravenous administrations: fall in blood pressure, tachycardia, dizziness, flushing of skin, sweating, headache, nausea, vomiting, dyspnea and syncope. If present, these side effects will be transitory and disappear within 10 to 30 minutes.

Before hydroxystilbamidine therapy is begun, renal and hepatic function should be thoroughly evaluated, and smaller doses of the drug at longer intervals should be given if malfunction is present.

The physician should consider systemic blastomycosis in the differential diagnosis of any obscure febrile illness. This is especially true now that hydroxystilbamidine has been demonstrated to be of great benefit in the treatment of this disease. This drug also offers promise in the treatment of other diseases.

LAMB B. MYHR, M.D.



#### WHAT SHALL BE THE ASSOCIATION'S POSTGRADUATE PROGRAM?

In 1937, the Tennessee State Medical Association began its first postgraduate activities other than its annual sessions. As is well known, this consisted of engaging a lecturer to travel over the State to give a series of lectures in each of ten areas during the period of two years. The postgraduate teaching was only made possible through the generous gift of \$10,000 annually by the Commonwealth Fund, to which were added a sizeable contribution from the State Department of Public Health, and annual contributions from Vanderbilt University School of Medicine and the University of Tennessee College of Medicine.

This "circuit riding" type of postgraduate instruction has been most successful in terms of good instructors and practitioner participation. The courses have been in the fields of obstetrics, medicine, pediatrics, surgery and psychiatry, each being covered over the years in rotation, one or more times. The success of these courses was



well demonstrated in the House of Delegates of the Tennessee State Medical Association when the Commonwealth Fund finally withdrew its support. (This was in line with the Fund's policy,—the underwriting of a medical activity until such time as it feels a local community or agency should take responsibility for it.) The House of Delegates, by a large majority, expressed itself in favor of the Tennessee State Medical Association assuming the responsibility of the continuation of this type of postgraduate activity. Accordingly, \$10,000 of the Association's Funds have been appropriated annually since 1951, to continue the travelling-lecturer type of postgraduate instruction. (The Department of Public Health and the medical schools have continued their contributions.)

There is no gainsaying the tremendous impact these courses made upon the general practitioners of Tennessee and the certain improvement of medical care which was a result. But now, seventeen years after the initiation of the program, is it amiss to pause and re-evaluate this type of postgraduate instruction in the light of 1955? With the rapid progress of medicine these days, are weekly lectures for a ten-week period, out of 104 weeks, adequate to bring the practitioner up to date in pediatrics, let us say, especially when the next ten lectures in the field may come again in eight years hence!

The efficiency of this type of postgraduate instruction may be seriously questioned, especially in view of present day opportunities. The growth and activities of the component groups of the American Academy of General Practice have had an important influence in the changing picture. Now there are annual postgraduate programs in Memphis, Nashville, Knoxville and Chattanooga, all recognized for credit by the Academy of General Practice, not to mention the Atlanta, New Orleans and other postgraduate weeks. The American Academy of General Practice conducts additional postgraduate courses. For several years the University of Tennessee College of Medicine has had an increasing number of one to three-day courses in various fields designed for the general practitioner. Vanderbilt University

School of Medicine has cooperated with the Andrew Jackson Academy of General Practice in providing instruction in certain fields. All these varied postgraduate activities are acceptable by the American Academy of General Practice for credit.

This leads to the question, has the "circuit riding" course outlived its original, and a most valuable contribution in postgraduate instruction? The practical question is,—does the doctor get more by spending one to three days on obstetrics, for example, at a university medical school center, where he is relaxed and sees clinical material, than listening to a lecture, tired at the end of a busy day, weekly for ten weeks at some meeting place fifteen or twenty miles from his home? Or might the doctor like a more varied program brought to his home area periodically from a medical center?

It has been suggested by some of the membership in the Association that serious thought should be given to the question of whether the present travelling lecturer type of postgraduate instruction is the best, and does it represent the wisest expenditure of Association funds! Might it be better to underwrite the use of the staffs and facilities of one of the North Carolina medical schools for the eastern part of the State, of Vanderbilt University School of Medicine for Middle Tennessee and of the University of Tennessee College of Medicine for the western portion of the State? Probably less than \$10,000 of Association funds would be needed. The Department of Public Health should continue to contribute, for the population at large profits by postgraduate activity; and the postgraduate student should pay a tuition fee as he does now to insure his interest and attendance in something he has paid for.

Members of the House of Delegates should be prepared to look at the Association's postgraduate activities as of 1955. The details of a new program would mean discussion and planning by representatives of various interested groups. The general practitioner would have the main stake in a more modern program. His needs should have the prime consideration. R. H. K.

**SPECIAL SECTION**  
**SCIENTIFIC PROGRAM**  
**OF THE 120TH ANNUAL SESSIONS**  
**OF THE**  
**TENNESSEE STATE MEDICAL**  
**ASSOCIATION**  
**BALLROOM—READ HOUSE**

**MONDAY, APRIL 11, 1955**

9:00 A.M.

Film—"Career—Medical Technology"

9:25 A.M.

**The Newer Drugs in Hypertension**

By: DR. SAMUEL S. RIVEN, Nashville

Discussed by: DR. E. WHITE PATTON, Chattanooga

9:50 A.M.

**The Use of Anticoagulants**

By: DR. I. FRANK TULLIS, Memphis

Discussed by: DR. E. CHARLES SIENKNECHT, Knoxville

10:15 A.M.

**Visit Exhibits**

10:45 A.M.

**Neurologic Examination in the Office**

By: DR. BERTRAM E. SPROFKIN, Nashville

Discussed by: DR. JOSEPH W. JOHNSON, JR., Chattanooga

11:10 A.M.

**Symposium: Total Care of the Surgical Patient**

Introduction: DR. HARWELL WILSON, Memphis—  
Moderator

**Preoperative Evaluation of the Surgical Patient**

DR. EDWARD T. NEWELL, JR., Chattanooga

**Blood, Electrolytes and Hormones in Supportive Therapy**

DR. JAMES D. HARDY, Memphis

**Postoperative Complications**

DR. JAMES A. KIRTLEY, Nashville

DR. HARWELL WILSON, Memphis

**Summary**

**TUESDAY, APRIL 12, 1955**

**Ballroom**

**Read House**

9:00 A.M.

**Iatrogenic Disease**

By: DR. WADE H. BOSWELL, Knoxville

Discussed by: DR. FRANK W. STEVENS, Nashville

9:25 A.M.

**Management of Chronic Renal Insufficiency**

By: DR. HALL S. TACKET, Memphis

Discussed by: DR. HOWARD A. BOONE, Memphis

9:50 A.M.

**Treatment of Brain Injuries**

By: DR. WALTER E. BOEHM, Chattanooga

Discussed by: DR. BLAND CANNON, Memphis

10:15 A.M.

**Visit Exhibits**

10:45 A.M.

**Systemic Manifestations of Unilateral Kidney Disease**

By: DR. THOMAS F. FRIST, Nashville

Discussed by: DR. CARL A. HARTUNG, Chattanooga

11:10 A.M.

**Symposium: Inflammatory Diseases of the Terminal Ileum and Colon**

Introduction, DR. DAUGH W. SMITH, Nashville—  
Moderator

**Amebiasis and Tuberculosis**

DR. HAROLD B. HENNING, Chattanooga

**Diverticulitis and Lymphopathia Venereum**

DR. JOHN W. AVERA, Knoxville

**Regional Ileitis and Chronic Ulcerative Colitis**

DR. AUBREY B. HARWELL, Nashville

**Surgical Complications**

DR. DAUGH W. SMITH, Nashville

**WEDNESDAY, APRIL 13, 1955**

**Ballroom**

**Read House**

9:00 A.M.

**Indications for Hysterectomy**

DR. W. POWELL HUTCHERSON, Chattanooga

Discussor: DR. WILLIAM F. MACKEY, Memphis

9:25 A.M.

**Chronic Pulmonary Emphysema**

DR. ROBERT A. GOODWIN, Nashville

Discussor: DR. LELAND JOHNSTON, Jackson

9:50 A.M.

**Diagnosis and Treatment of Cerebrovascular Accidents**

DR. NICHOLAS GOTTEN, Memphis

Discussor: DR. ALYS LIPSCOMB, Memphis

10:15 A.M.

**Visit Exhibits**

10:45 A.M.

**Hepatitis**

DR. J. ED STRICKLAND, JR., Chattanooga

Discussor: DR. GEORGE L. SIVILS, Chattanooga

11:10 A.M.

**Panel Discussion: Hormone Therapy from Pediatrics through Geriatrics**

Moderator: DR. JOHN C. BURCH, Nashville

DR. HAROLD FEINSTEIN, Memphis

DR. JOE B. KILLEBREW, Chattanooga

DR. ADDISON B. SCOVILLE, JR., Nashville

DR. A. H. LANCASTER, Knoxville

**TENNESSEE ACADEMY OF  
 GENERAL PRACTICE**

**MONDAY, APRIL 11, 1955**

**Ballroom**

**Hotel Patten**

2:00 P.M.

**Scientific Session**

**Gastric Carcinoma**

DR. MORRIS E. DAILEY, University of California  
 Medical School at San Francisco

**Management of Upper Gastro-intestinal Hemorrhage**

DR. N. EDWARD, ROSSETT, Memphis, Tennessee

Informal Dutch treat Dinner followed by Business Meeting in Parlor A—Hotel Patten at 6:00 P.M.

## TENNESSEE SECTION, AMERICAN COLLEGE OF PHYSICIANS

### MONDAY, APRIL 11, 1955

**Chestnut Room****Read House**

12:30 P.M.

**Luncheon—Organization Meeting**

2:00 P.M.

**Scientific Program****Leptospirosis Due to Leptospira Ictero-hemorrhagica, Canicola and Pomona**

Doctors W. D. SUTLIFF, and W. B. DUNHAM, Memphis

**Unusual Types of Meningitis**

DR. B. E. SPROFKN, Nashville

**Porphyria With Central Nervous System Symptoms: Case Report**

DR. J. W. JOHNSON, JR., Chattanooga

**Pathogenesis of Rheumatic Fever and Its Valvular Sequellae**

DR. R. C. SEXTON, Knoxville

**Pulmonary Infarction in Buerger's Disease**

DR. L. A. GROSSMAN, Nashville

**What is Important in the Treatment of Liver Disease**

DR. I. F. TULLIS, Memphis

**Essential Hyperlipemia**

DR. F. B. MURPHEY, Chattanooga

**Hemorrhoids, a Cause of Anemia**

DR. R. G. NICHOLS, Knoxville

## TENNESSEE CHAPTER

### AMERICAN COLLEGE OF SURGEONS

#### MONDAY, APRIL 11, 1955

**Ballroom****Read House****Presiding at Session**EDWARD T. NEWELL, JR., M.D., Chattanooga  
Chapter President

1:30 P.M.

**Asymptomatic Bronchogenic Carcinoma**

ROBERT P. MCBURNEY, M.D., Memphis

2:00 P.M.

**Acute Intestinal Obstruction**

JAMES D. HARDY, M.D., Memphis

2:30 P.M.

**Acute Liver Injuries**

CHARLES R. ZIRKLE, M.D., Knoxville

3:00 P.M.

**Panel Discussion—Surgery of the Breast**

Moderator: BARTON McSWAIN, M.D., Nashville

**Panelists****Management of Tumors of the Breast**

BARTON McSWAIN, M.D., Nashville

**Clinical Course of Cancer of the Breast, including Routes of Metastasis**

B. F. BYRD, JR., M.D., Nashville

**Extended Operations for Carcinoma of the Breast, including Oophorectomy, Adrenalectomy and Hypophysectomy**

OSCAR NOEL, JR., M.D., Nashville

**Radiation Therapy of Carcinoma of the Breast**

JOSEPH McK. IVIE, M.D., Nashville

**Hormone Therapy for Carcinoma of the Breast**

BEVERLY T. TOWER, M.D., Nashville

**Question and Answer Period**

### TUESDAY, APRIL 12, 1955

**Ballroom****Read House**

1:30 P.M.

**Immediate Surgery for Traumatic Paraplegia**

AUGUSTUS McCRAVEY, M.D., Chattanooga

2:00 P.M.

**Mineral Oil Graneloma of the Lung**

ROLLIN A. DANIEL, JR., M.D., Nashville

2:30 P.M.

**Marginal Ulcers—Problems of Surgical Management**

LYNWOOD HARRINGTON, M.D., Nashville

3:00 P.M.

**Panel Discussion—Surgical Lesions of the Right****Upper Abdomen—Stomach, Liver, Biliary Tracts and Pancreas**

Moderator: JAMES L. SOUTHWORTH, M.D., Knoxville

**Panelists****The Surgical Treatment of Acute Cholecystitis**

ROBERT W. NEWMAN, M.D., Knoxville

**The Diagnosis of Surgical Disorders in the Right Upper Quadrant in Infants and Children**

GILBERT EBLEN, M.D., Knoxville

**The Surgical Significance of Duodenal Diverticula**

E. CONVERSE PEIRCE II, M.D., Knoxville

**The Outcome in 100 Consecutive Patients with Right Upper Quadrant Pain**

GLEN C. SHULTS, M.D., Newport

**Pain as a Presenting Symptom in Carcinoma of the Pancreas**

JAMES L. SOUTHWORTH, M.D., Knoxville

**Question and Answer Period**

4:30 P.M.

**Business Session**

6:30 P.M.

**Social Hour—Rose Room—Hotel Patten**

Host—Surgeons' Club of Chattanooga (Wives Invited)



7:30 P.M.

**Banquet—Ball Room—Hotel Patten—Wives Invited**

Host—Tennessee Chapter, American College of Surgeons

Speaker—I. RIDGEWAY TRIMBLE, M.D., Baltimore, Maryland

Topic—"The Position of the Physician in World Affairs"

**TENNESSEE ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY****MONDAY, APRIL 11, 1955****Red Room****Hotel Patten**

1:45 P.M.

**Scientific Program**

1:45 P.M.

Meeting called to order by DR. PHILLIP LEWIS

2:00 P.M.

**The Clinical Evaluation of Subnormal Visual Aids**

By DR. WILLIAM F. MURRAH, Memphis, Tenn.

Discussors: DR. RALPH O. RYCHENER, Memphis; and DR. I. L. ARNOLD, Chattanooga

2:30 P.M.

**Reconstruction of the Eyelids**

By DR. MCCARTHY DEMERE, Memphis, Tenn.

Discussor: DR. GREER RICKETSON, Nashville

3:00 P.M.

**A Case Report of an Unusual Foreign Body of the Esophagus**

By HERBERT DUNCAN, Nashville

Discussor: DR. GUY MANESS, Nashville

3:20 P.M.

**A Case Report of Rhinosporidiosis**

By DR. HAROLD T. MCIVER, Jackson, Tenn.

3:45 P.M.

A Case Report by DR. TOM JACKSON, Memphis, Tennessee

4:10 P.M.

**A Case Report of Unilateral Exophthalmos of Unusual Origin**

By DR. RALPH O. RYCHENER and DR. ROBERT RASKIND, Memphis

Discussor: DR. D. H. ANTHONY, Memphis, Tenn.

4:40 P.M.

**Business Meeting**

Evening

Cocktail Party—Hamilton Room—Patten Hotel  
Dinner (Wives Invited) Hamilton Room—Patten Hotel**TUESDAY, APRIL 12, 1955****Red Room****Hotel Patten**

12:15 P.M.

**Luncheon**

1:30 P.M.

**Scientific Program**

1:30 P.M.

**Meeting called to order by President**

1:40 P.M.

**A Case Report of Osteomyelitis as a Result of Graphite**

DR. ROBERT RASKINS, Memphis

2:05 P.M.

**Post Operative Treatment of Strabismus**

DR. GEORGE BOUNDS, Nashville

2:25 P.M.

**Peritonsillar Abscess**

DR. HAROLD T. MCIVER, Jackson

2:45 P.M.

**A Case Report of Acute Non-granulomatous Iritis Treated with Intravenous ACTH**

DR. STEWART LAWWILL, Chattanooga

3:15 P.M.

**Herpes Zoster Ophthalmicus and Its Treatment**

DR. WALTER H. BENEDICT, Knoxville

3:40 P.M.

**A Case Report of Mastoiditis with Brain Abscess and Lateral Sinus Thrombosis**

DR. HARRY R. MORSE, Knoxville

4:10 P.M.

**A Case Report of A Pyocele of the Frontal Sinus with Unusual Eye and Psychiatric Symptoms**

DR. W. LIKELY SIMPSON, Memphis

**TENNESSEE STATE PEDIATRIC SOCIETY****MONDAY, APRIL 11, 1955****Parlor C****Read House**

11:00 A.M. to 12:00 Noon

**Registration**

1:30 P.M.

**Scientific Session**

1:30 P.M. to 2:15 P.M.

**Fluids and Electrolytes**

NELSON K. ORDWAY, M.D., Professor of Pediatrics, University of North Carolina

**Discussion**

2:25 P.M. to 3:10 P.M.

**Diphtheria, a continuing pediatric problem**

CLIFFORD G. GRULEE, JR., M.D., Associate Professor of Pediatrics, Tulane University

**Discussion**

3:20 P.M. to 4:05 P.M.

**Rheumatic Fever**

KATHERINE DODD, M.D., Professor of Pediatrics, University of Arkansas

**Discussion**

6:00 P.M. to 7:00 P.M.

Cocktail Party—Parlor C—Read House for members of the Tennessee Pediatric Society and their wives

7:00 P.M.

Banquet—Chestnut Room—Read House for members of the Tennessee Pediatric Society and their wives

**TUESDAY, APRIL 12, 1955**

**Parlor C** **Read House**  
 12:00 Noon  
**Luncheon for the visiting pediatricians as guests of the Chattanooga Pediatric Society.**

1:30 P.M.

**Scientific Session**

1:30 P.M. to 2:30 P.M.

**Meningitis**

KATHERINE DODD, M.D., Professor of Pediatrics,  
 University of Arkansas

2:30 P.M. to 3:30 P.M.

**Congenital Heart Disease**

NELSON K. ORDWAY, M.D., Professor of Pediatrics,  
 University of North Carolina

**Discussion**

4:00 P.M. to 5:00 P.M.

**Business Meeting**

**TENNESSEE RADIOLOGICAL SOCIETY**  
**MONDAY, APRIL 11, 1955**

**Parlor E** **Read House**  
 12:30 P.M.

**Luncheon**

2:00 P.M.

**Scientific Session****Treatment of Carcinoma of the Uterine Cervix**

DR. MANUEL GARCIA

Clinical Professor of Radiology, Tulane School  
 of Medicine; Director Dept. of Radiology,  
 Charity Hospital, New Orleans, Louisiana.

**Expert Diagnostic Panel**

(Panel to be announced)

This panel will expertly diagnose films of  
 proven cases to be submitted by members or  
 guests. Cases to be diagnosed should be  
 meritorious by virtue of their nature and supported  
 by films of good diagnostic quality.

**TENNESSEE DIABETES ASSOCIATION**  
**TUESDAY, APRIL 12, 1955**

**Parlor A** **Patten Hotel**  
 9:45 A.M.

**Trip to new camp site for Tennessee Camp for  
 Diabetic Children.**

12:00 Noon

**Lunch at Camp site—By reservation—Members  
 and guests**

2:00 P.M.

**Scientific Session—Hotel Patten—Parlor A****Blood Sugar Levels in Health and Disease**

DR. RICHARD C. SEXTON, JR., Knoxville

**The Effect of Intracranial Lesions on Glucose Metabolism**

DR. ROBERT A. WATERS, Chattanooga

**Diabetic Nephropathy**

DR. FRED GOLDNER, Nashville

**Diabetes and Pregnancy**

DR. C. A. ROSENBERG, Memphis

4:30 P.M.

**Business Session****Annual Meeting****Election of Officers**

6:30 P.M.

**Cocktails**

7:30 P.M.

**Dinner**

Members, Guests and Wives

**Hemochromatosis**

Dinner Speaker—BENJAMIN GENDEL, M.D.,  
 Memphis

**TENNESSEE PSYCHIATRIC  
 ASSOCIATION**

**TUESDAY, APRIL 12, 1955**

**Parlor B** **Read House**  
 12:30 P.M.

**Luncheon**

2:00 P.M.

**Scientific Session****Professional papers****Anorexia Nervosa**

DR. SAMUEL PASTER, Memphis

**Thorazine and/or Reserpine in the Treatment of  
 Neuro-Psychiatric Conditions**

DR. D. C. MCCOOL, Memphis

**From the Internists Standpoint of Problems in  
 Psychiatric Referrals**

DR. PHILIP LIVINGSTON, Chattanooga

**Use of Hypnosis Medical and Psychiatric Practice**

DR. GUY ZIMMERMAN, Chattanooga

3:45 P.M.

**President's Address**

4:00 to 5:00 P.M.

**Business Meeting****TENNESSEE THORACIC SOCIETY****TUESDAY, APRIL 12, 1955**

**Parlor E** **Read House**  
 12:30 P.M.

**Luncheon**

1:30 P.M.

**Scientific Session****A Review of the Work to Date of the Public  
 Health Studies in Chemotherapy in Tuberculosis**

F. H. ALLEY, M.D., Memphis, Tennessee

**Mediastinal Tumors**

ROBERT L. MCCracken, M.D., Nashville

**Some Chest Problems in Every Day Practice**

CARL A. HARTUNG, M.D., Chattanooga

**Acute Cor Pulmonale Occuring in a Case of Tu-  
 berculosis While Under Treatment with Pneumo-  
 peritoneum**

CARL GARDNER, M.D., Columbia, Tennessee

**The Importance of Bacteriology in Tuberculosis**

(Paper prepared by DR. MEDFORD C. BOWMAN,

DR. CHARLES L. BUTLER, and MR. LESTER M. OSWALD of the East Tenn. Tuberculosis Hospital, Knoxville, Tennessee)  
MEDFORD C. BOWMAN, M.D., Knoxville

**TUESDAY, APRIL 12, 1955**

**Hamilton Room** **Hotel Patten**  
6:30 P.M.

**Annual Banquet**

To be presided over by DR. BEN L. PENTECOST, President

**Guest Speaker:**

**Medical Education and the General Practitioner**

DR. HENRY PACKER, Memphis  
Head of the Department of Preventive Medicine University of Tennessee School of Medicine

**Election and Installation of Officers**

**Adjournment**

**TENNESSEE ACADEMY OF PREVENTIVE MEDICINE AND PUBLIC HEALTH**

**WEDNESDAY, APRIL 13, 1955**

**Sample Room No. 339** **Read House**  
12:15 P.M.

**Luncheon—Members and guests**  
2:00 P.M.

**Scientific Session**

Open to all members of the Tennessee State Medical Association  
Speaker: WILLIAM W. FRYE, M.D., Dean, School of Medicine, Louisiana State University, New Orleans, Louisiana  
Subject: The Teaching of Preventive Medicine in Medical Schools in Relation to the Practice of Public Health

**TENNESSEE HEART ASSOCIATION**

**WEDNESDAY, APRIL 13, 1955**

**Chestnut Room** **Read House**  
12:30 to 2:00 P.M.

**Luncheon**  
2:00 P.M.

**Scientific Sessions**

2:00-2:20 P.M.

**Advances in Management of Cardio-Artery Disease**

PHILIP H. LIVINGSTON, M.D., Chattanooga  
2:25-2:45 P.M.

**Role of the Artificial Kidney in Therapy**

WALTER HOFFMAN, M.D., Memphis  
2:50-3:10 P.M.

**Treatment of Severe Myocardial Infarction**

JOE E. ACKER, M.D., Knoxville  
3:15-3:35 P.M.

**Water Electrolytes and Diuretic Drugs in Heart Failure**

E. V. NEWMAN, M.D., Nashville  
3:45-4:30 P.M.

**(Tentative) Drug Therapy in Hypertension**

ROBERT WILKINSON, M.D., Boston

4:30-5:00 P.M.

**(Tentative) Questions and answers—Panel Discussion**

**TENNESSEE SOCIETY OF PATHOLOGISTS**

**WEDNESDAY, APRIL 13, 1955**

**Parlor B** **Read House**  
12:30 P.M.

**Luncheon**  
2:00 P.M.

**Scientific Sessions**

DR. J. P. WYATT, Professor of Pathology at St. Louis University School of Medicine, will be the guest speaker and DR. WYATT's subject will be "Pneumoconioses."

A business meeting will follow the presentation of scientific program.

**TENNESSEE MEDICAL FOUNDATION**

**WEDNESDAY, APRIL 13**

**Chestnut Room** **Read House**  
8:00 A.M.

Breakfast (Dutch)  
8:30 A.M.

**Chestnut Room** **Read House**

Membership Business Meeting  
Amendments to By-Laws  
Election of Board of Directors

**WOMAN'S AUXILIARY TO THE TENNESSEE STATE MEDICAL ASSOCIATION**

**APRIL 11, 12, 13, 1955**

Woman's Auxiliary to the Chattanooga-Hamilton County Medical Society, Host

Registration—Hotel Patten—April 11, 12, 13, 1955

MRS. W. W. HUBBARD, President, Woman's Auxiliary to the Tennessee State Medical Association

MRS. W. R. BUTTRAM, President Woman's Auxiliary to the Chattanooga-Hamilton County Medical Society

MRS. H. DAVID HICKEY, Chairman of Arrangements

**MONDAY, APRIL 11, 1955**

**Board Luncheon**

Panoram Hotel (Scenic) Dining Room—12:30 P.M.

MRS. J. CULPEPPER, BROOKS, JR., Chairman

**Pre-Convention Board Meeting**

Panoram Hotel  
MRS. W. W. HUBBARD, President, Presiding

**President's Night**

Read House—8:00 P.M.



**TUESDAY, APRIL 12, 1955****Opening of General Session**

10:00 A.M.

**Parlor B.****Hotel Patten**

MRS. W. W. HUBBARD, President, Presiding

**Past Presidents' Luncheon**

12:30 P.M.

**Hamilton Room****Hotel Patten**

MRS. GEORGE TURNER, President Woman's Auxiliary to A.M.A., Guest Speaker

MRS. C. H. BARNWELL, Chairman

**Presidents' Tea**

Honoring

MRS. GEORGE TURNER, President Woman's Auxiliary to A.M.A.

MRS. LOUIS K. HUNDLEY, President Woman's Auxiliary to the Southern Medical Association

MRS. W. W. HUBBARD, President Woman's Auxiliary to the Tennessee State Medical Association

MRS. ROY A. DOUGLAS, President-Elect, Woman's Auxiliary to the Tennessee State Medical Association

**Home of Dr. and Mrs. Augustus McCravey, 130 North Crest Road, Missionary Ridge**

3-5 P.M.

MRS. GUY M. FRANCIS

MRS. WAYNE GILLEY, Co-Chairmen

(Special Dinners)

**WEDNESDAY, APRIL 13, 1955****General Session**

10:00 A.M.

**Parlor B****Hotel Patten**

MRS. W. W. HUBBARD, President, Presiding

**Installation Luncheon—Chattanooga Golf and Country Club**

12:30 P.M.

Honoring:

MRS. W. W. HUBBARD

MRS. ROY A. DOUGLASS

MRS. LOUIS K. HUNDLEY, President Woman's Auxiliary to the Southern Medical Association—Guest Speaker

Installation of Officers, MRS. GEORGE TURNER

MRS. ROBERT E. EYSEN, Chairman

**Post-convention Board Meeting**

2:15 P.M.

**Parlor B****Hotel Patten**

MRS. ROY A. DOUGLASS Presiding

**Annual Dinner Dance of the Woman's Auxiliary to the Chattanooga-Hamilton County Medical Society—Chattanooga Golf and Country Club**

MRS. ARCH H. BULLARD, Chairman

State Auxiliary Members and Husbands cordially invited. Tickets will be available at the Auxiliary Headquarters in the Patten Hotel.

## **SPECIAL MEETINGS AND ANNOUNCEMENTS**

**President's Night**

Monday, April 11—8:00 P.M.

Ballroom, Read House

Joseph W. Johnson, Jr., M.D. Vice-Speaker of the House of Delegates, Presiding.

Presidential Address—John R. Thompson, Jr., M.D.

President-Elect's-Inaugural Address—Chas. C. Trabue, IV, M.D.

Special Awards

Presenting the winner of the Health Project Contest by Mrs. S. J. Sullivan, Chairman of the Contest Committee.

Award of \$500.00 Bond to winner by James C. Gardner, M.D., Chairman, Board of Trustees.

Presenting Tennessee's Outstanding General Practitioner by R. N. Buchanan, Jr., M.D., Speaker of the House of Delegates—Award of Certificate.

**President's Luncheon**

12:30 P.M. Ballroom, Read House

Tuesday, April 12

The President's Luncheon will be in the Ballroom of the Read House. Dr. John R. Thompson, Jr., President, will present his guests. Dr. Kenneth B. Babcock, Chicago, Director of the Joint Committee on Accreditation of Hospitals, will be the guest speaker. Dr. Babcock's subject will be "The Accreditation and Utilization of Hospitals". Dr. Babcock is an outstanding speaker and many members of the Association are anxious to hear his address on the above subject.

### **Public Service Committee's Hospital Clinic**

2:00 P.M. Tuesday, April 12

Ballroom, Patten Hotel

The Public Service Committee will present a significant conference in the Patten Hotel at 2:00 p.m. on April 12. Dr. Kenneth B. Babcock will be the principal speaker. Members of the Association attending the Annual Meeting are cordially invited, and Hospital Administrators in Tennessee have also been invited to attend.

## DEATHS

**Dr. Edward Clay Mitchell**, 73, Memphis, died at Baptist Hospital on February 1st. Dr. Mitchell was instrumental in setting up the present Pediatrics Department of the University of Tennessee College of Medicine.

**Dr. John E. Kelly**, 70, Sevierville, died January 22nd at Fort Sanders Hospital in Knoxville.

**Dr. Robert H. Kincaid**, 83, Knoxville, died January 21st at the home of his niece in Brownsville.

**Dr. Raymond Hudson Vunk, Sr.**, died January 19th at Whitehaven.

## PROGRAMS AND NEWS OF MEDICAL SOCIETIES

### Anderson-Campbell County Medical Society

The Society held its regular monthly meeting on January 27th at the Russell Hotel in LaFollette. Dr. Charles Zirkle of Knoxville was the guest speaker.

### Consolidated Medical Assembly

The Society met in Jackson on February 1 where Dr. H. P. Clemmer presided at the business session, during which impending legislation relative to the Medical profession was discussed.

Dr. John Hughes, of the Department of Medicine at the University of Tennessee College of Medicine, spoke on "The Problems of Infectious Hepatitis." The paper was discussed by Dr. G. B. Wyatt of Jackson.

Dr. Marcus Stewart, of the Division of Orthopedic Surgery at the University of Tennessee, gave a paper on the "Diagnosis and Treatment of Bursitis." This paper was discussed by Dr. Baker Hubbard of Jackson.

### Roane County Medical Society

Dr. C. R. Stephen, of the Department of Anesthesiology at Duke University, Durham, N. C., was the speaker for the regular meeting of the Roane County Society on January 18. His subject was "Trilene Anesthesia and Analgesia."

### Five County Medical Society

The Five County Society met for their quarterly meeting in Sparta on January 27th. The program consisted of a study film on modern hypertension. Dr. John T. Moore, Algood, made a case presentation. Counties represented were White, Putnam, Cumberland, Overton and Jackson.

### Memphis and Shelby County Medical Society

Members of the Society heard a special program on intracardiac surgery presented by the Memphis Heart Association on February 1. The program speakers were Dr. R. A. Cowley, assistant professor of surgery at the University of Maryland Medical School, and Dr. Leonard E. Sherlis, associate in medicine at the same university.

### Knoxville Academy of Medicine

Members of the Academy of Medicine met on February 8 and the following program was presented. Interesting case reports: "Arterial Graft," E. C. Penrce, M.D.; "Fracture of Zygoma and Orbital Wall," Cecil E. Pitard, M.D. Dr. Thomas F. Lomasney presented a paper on "Pericardectomy for Constrictive Pericarditis" and illustrated with movie.

### Nashville Academy of Medicine and Davidson County Medical Society

The February 8th dinner meeting was held in St. Catherine's Hall at St. Thomas Hospital. Members of the Society heard a report of the advisory committee to Red Cross Blood Center and the scientific program was as follows: "Recent Advances in Pediatrics" by Dr. Randolph Batson, of the Department of Pediatrics at Vanderbilt. Case reports and discussions were presented by Dr. D. C. Seward and Dr. Addison B. Scoville.

### Chattanooga-Hamilton County Medical Society

Programs during January and February of the Society consisted of lectures on "Obstetric Hemorrhage," January 13th; "Puerperal Infections," January 27th; "Manage-

ment of Puerperium and Complicating Gynecological Disorders," February 3rd; "Obstetric Operations," February 10th; "Dystocia in Labor," February 17th; "Care of Newborn and Postpartum Pediatric Problems," February 24th. The lectures were a part of the Postgraduate Program in Obstetrics and conducted by Dr. Charles A. Behney.

## NATIONAL NEWS

### Still Growing

More than 100 million persons, or better than 60% of the United States' population, now have voluntary health insurance, according to the Health Insurance Council. Total benefit payments for 1953 exceeded 2.5 billion dollars—an increase of 20 per cent.

### President Asked Two-Year Doctor-Draft Extension

President Eisenhower requested Congress on January 13th to extend the doctor-draft for another two years beyond July 1 as part of a three-point military program also calling for a four-year extension of the regular draft in creation of a new reserve program. In the case of doctors and dentists, the President recommended another period of two years only.

### Reinsurance

The Eisenhower-Hobby reinsurance plan, certain to receive strong Congressional consideration during 1955, endorses federal support in an effort to provide more complete coverage at lower rates. Much emphasis is being placed on the need for catastrophic illness coverage. Eventually, a similar subsidy might provide for income during long periods of illness or disability.

Senator Lister Hill (Alabama), scheduled to become chairman of the Senate Labor and Public Welfare Committee, opposes compulsory health insurance but favors federal aid which does not require the surrender of local authority.

## MEDICAL NEWS IN TENNESSEE

### College of Surgeons Sectional Meeting

The Sectional meeting of the American College of Surgeons will meet in Nashville on April 4-6. Scientific reports, symposia,

hospital clinics, panel discussions and films on current surgical problems will be presented. (See February issue.)

### "The Medical Handling of Mass Casualties"

A four hour lecture program on "The Medical Handling of Mass Casualties" will be presented in Nashville on April 8th by a team of lecturers from the Army Medical Service. The course will deal chiefly with the civilian medical problems to be anticipated in the event of an atomic explosion in the medium sized city.

The course will be held in the auditorium of the Social-Religious Building at Peabody College in Nashville at 9:30 A.M. on April 8th. There will be a two hour session before and another after a noon recess. All interested physicians are invited to attend.

### Mid-South Postgraduate Medical Assembly

The 66th Annual Session of the Mid-South Postgraduate Medical Assembly was held in the Peabody Hotel in Memphis from February 8-11. Approximately 1,400 physicians and students from neighboring states attended the assembly.

### Eye, Ear, Nose, Throat Convention

More than 100 eye, ear, nose and throat specialists from Tennessee and the Mid-South attended the Memphis convention at the Peabody Hotel on February 5th, 6th and 7th. Speakers included Dr. George E. Shambaugh, Jr., of Chicago, Professor of Otolaryngology at Northwestern Medical School. Other speakers were Dr. Paul H. Holinger, Dr. Samuel Salinger, both of Chicago; Dr. F. Bruce Fralick of Ann Arbor, Mich.; Dr. Frederick C. Cordes, San Francisco; and Dr. Harold Scheie of Philadelphia.

### University of Tennessee College of Medicine

Special laboratories are provided for the use of radioactive isotopes in research projects by both the Division of Chemistry and Physiology. The building is the first of three to be built under a \$5,000,000 ex-



pansion program of the University. The \$1,750,000 building will add a total of 70,000 square feet to Memphis' Medical Center. The first three floors will house facilities for teaching and research in chemistry. The Division of Physiology will occupy the fourth and fifth floors. Air conditioning units and an auxiliary heating unit will be in the basement. The foundation is such that an additional sixth floor may be added later.

## PERSONAL NEWS

**Dr. L. W. Nabers**, Morristown, is the President-Elect of the Mid-South Postgraduate Medical Assembly. **Dr. Thomas Stevens** of Knoxville was elected Vice-President.

Participating in a panel discussion on Mental Health at Cleveland, Tennessee, were: **Drs. Joseph W. Johnson, Jr., Joseph McCoin, Claude Taylor, Charles Heron, S. J. Sullivan, and William Garrott.**

**Dr. Bernard Tepper**, Chattanooga, recently spoke before the Chattanooga Junior Chamber of Commerce.

**Dr. Fred M. Valentine, Sr.**, Newport, has been appointed Chairman of the Heart Fund Drive for Cocke County.

**Dr. John J. Lentz**, Nashville, recently spoke before the Business and Professional Women's Club of Nashville.

**Dr. G. V. Taylor, Sr.**, Dayton, has been named Chairman of the Board of Health for Rhea County and **Dr. Max D. Lindsey** of Spring City, Vice-Chairman.

**Dr. Raymond J. Leffler**, formerly of California, has been appointed pathologist and director of laboratories of East Tennessee Baptist Hospital in Knoxville. He succeeds **Dr. James B. Roberts** who resigned.

**Dr. Gene Martin Lasater**, Paris, has been appointed the first full-time neurologist at the University of Tennessee College of Medicine in Memphis.

**Dr. Merrill F. Nelson**, Chattanooga, recently presented a film before the Chattanooga Exchange Club.

**Dr. F. L. Roberts**, Memphis, recently addressed the Board of Directors of the American Cancer Society in Tennessee.

**Dr. William R. Green**, Chattanooga, was a recent speaker on polio on a Chattanooga radio station.

**Dr. Joe S. Henderson, Jr.**, Maryville, plans to open an office for the practice of medicine there about April 1.

**Dr. William F. Orr** and **Dr. Robert W. Adams,**

**Jr.**, Nashville, spoke to the Hopkinsville, Kentucky, Medical Group on January 25th.

**Dr. M. W. Wood** has joined **Dr. John E. Powers** of Jackson in the practice of medicine.

**Dr. C. S. McMurray, Sr.**, Nashville, has been appointed to the Selective Service Board of appeals for the Middle Tennessee Judicial District.

**Dr. Charles J. Ray** has opened an office for the practice of medicine in Chattanooga.

**Dr. R. F. Ackerman**, Memphis, recently spoke before the Memphis Lay Diabetic Association.

**Dr. L. B. Myhr**, Jackson, was the principal speaker at a recent meeting before the Gibson County Heart Association at Trenton. **Dr. Frank Moore**, Jackson, also participated in the program.

**Dr. John Burkhart**, Knoxville, recently spoke to the Alcoa Kiwanians.

**Dr. Fred W. Carr**, Knoxville, was the subject of an interesting article in Newsweek magazine.

**Dr. Charles V. Dowling**, Memphis, was the key speaker recently before the Heart specialists group.

**Dr. J. Warren Rutledge** has opened an office for the practice of medicine in Lewisburg.

**Dr. H. W. Qualls**, Memphis, has been re-elected Chief of Staff of the Memphis Eye, Ear, Nose and Throat Hospital.

**Dr. G. H. Berryhill**, Jackson, has been elected Chief of the Medical Staff of Jackson-Madison County General Hospital.

**Dr. R. H. Hutcheson**, Commissioner of Public Health, was the speaker at the Memphis Rotary Club.

**Dr. Vincent J. Hyams** has assumed duties as Medical Director of the Nashville Regional Red Cross Blood Center.

**Dr. C. J. Duby**, Morristown, has been elected president of the Knoxville Pediatric Society.

**Dr. J. Kelly Avery**, Union City, is a candidate for the distinguished service award of the local Jaycees.

**Dr. A. Brant Lipscomb** opened his office for the practice of general and traumatic surgery in Nashville.

**Dr. Dan M. Thomas** has returned from the military services to resume practice with **Dr. L. F. Preston** in pediatrics at Oak Ridge.

**Dr. M. Houston Sarratt** announces the opening of his office for the practice of obstetrics and gynecology in Nashville.

## BOOK REVIEW

**Clinical Aspects of the Autonomic Nervous System.** By **L. A. Gillilan, Ph.D., M.D.** Boston: Little, Brown and Company. 1954. 316 pages. Price \$6.50.

This monograph is a readable account of the anatomy and physiology of the autonomic nervous system. It is well illustrated and includes a very complete bibliography. However, when the au-

thor discusses the autonomic nervous system in its relation to emotional disorders, there is a tendency toward oversimplification and generalization which is out of keeping with the accurate accounts of the anatomy and physiology of this system. The references to such forms of therapy as cordotomy and nerve blocking procedures are misleading, since the disadvantages and dangers of these procedures are not adequately detailed.

The publishers have described this book "as a fresh approach to the role of psychosomatic medicine as it relates to all branches of medical practice." In the opinion of this reviewer, this monograph can be recommended only as a reference work on the anatomy and physiology of the autonomic nervous system. It will be of very limited usefulness to the clinician who is trying to improve his understanding of "psychosomatic disease."

BERTRAM E. SPROFKN

★

**Fluid Therapy, by James D. Hardy, M.D., Philadelphia: Lea and Febiger, 1954, 255 pages. Price \$5.50.**

This volume, which is more quickly read than its length would indicate, takes up the general physiological aspects of body fluid metabolism, the classification of states of water and electrolyte balance, and the diagnosis and treatment of fluid imbalance. The routine management of patients in normal fluid balance who undergo operation and repair solutions for use in patients with various deficits are gone into in considerable detail. The management of abnormalities of potassium, calcium and magnesium metabolism is also dealt with. The remainder of the book deals with fluid therapy in the deficits commonly encountered in practice, including upper and lower intestinal obstruction, pancreatic and small bowel fistulae, and fluid therapy in infants, children and the elderly. The management of heart failure, diabetic acidosis and adrenocortical insufficiency is discussed, as are the deficits commonly encountered in urology, neurosurgery and orthopedics. Acute and chronic renal failure are considered, as in the early treatment of burns. Management of blood loss includes a discussion of plasma expanders. Diets for liquid alimentation, including gastrostomy and jejunostomy feedings, are presented and finally, complications which may be found in cases requiring intravenous fluid therapy are discussed.

The format of the book is pleasing, although there is a serious typographical error on page 36. The index is comprehensive and accurate. This is not merely a handbook for reference but goes into considerable detail on the bases of the findings presented. The bibliographies are comprehensive.

Dr. Hardy's book on fluid therapy, as would be expected, differs little from those of Marriott and Moyer. However, in dealing with a subject as complex as this a slightly different approach many

times serves to clarify the subject and thus be of great value to the individual physician.

RUDOLPH A. LIGHT, M.D.

★

**Hysterectomy. By John C. Burch, M.D., and Horace T. Lavelly, M.D. American Lecture Series. 94 pages, illustrated. Springfield, Ill.: Charles C. Thomas, Publisher, 1954.**

This monograph makes an excellent addition to the American Lecture Series. It will appeal to residents, gynecologists, surgeons and general practitioners. The authors present a conservative view to hysterectomy, based upon the retention of useful function. This common sense approach takes into account the needs of the patient for life, reproduction, sexual and hormonal functions, psychologic factors and pelvic support.

Indications, contraindications and alternate forms of therapy for commonly encountered benign and malignant gynecological conditions are discussed in relation to hysterectomy. Detailed operative techniques for abdominal and vaginal hysterectomies are well illustrated. A useful chapter discusses the more serious intra-operative complications.

The results of 1,226 hysterectomies with the clinical and pathological conditions encountered and postoperative complications are tabulated.

WILLIAM MCGARITY, M.D.

★

**The Kidney, Ciba Foundation Symposium. Edited by A. A. G. Lewis, M.D., and G. E. W. Wolstenholme, M.D. 333 pages, illustrated. Boston, Mass., Little, Brown and Company. 1954. Price \$6.75.**

This book is a well edited compendium of the full proceedings of the symposium on the kidney which took place in England. Many of the leading investigators of renal and electrolyte physiology and pathology participated, and, in many instances, summarized their findings of the past several years. Medical nephrologists and other students of renal disease will find this book rewarding from a scientific point of view. There is only a limited amount of information presented, however, which will be of practical value to the clinician.

FRED GOLDNER, M.D.

## ANNOUNCEMENTS

### Symposium on Tuberculosis and Chronic Pulmonary Diseases

The Fourth Annual Symposium for General Practitioners on the above subject will be held at Saranac Lake, New York, July 11-15, 1955. It is approved for 26 hours of formal credit for members of American Academy of General Practice.



## PLACEMENT SERVICE

The placement service of The Tennessee State Medical Association is designed to assist doctors and communities to get together. Further information and contacts on both physicians and communities are available from the Public Service Department, 322 Doctors Building, Nashville 3, Tennessee.

### Locations Wanted

A 33 year old, single physician, Protestant, graduate Faculty of Medicine, McGill University, Montreal, Canada. Priority IV. Medicine and surgery, clinic, assistant or associate in community 5,000-10,000. Available July 15. LW-100

A 31 year old, married physician, Catholic, graduate University of Tennessee, Priority IV, specialty training three years general surgery residency. Community 25,000 or more. Available immediately. LW-103

A 36 year old, married, Episcopal, graduate University of Colorado, certified in Ophthalmology. Presently in U. S. Navy. Desires community 20,000-200,000 in East or Middle Tennessee. Available July, 1955. LW-104

A 30 year old, married physician, graduate University of Tennessee, Priority IV-A. Desires general practice. Available Feb. 1, 1955. LW-125

A 29 year old, married physician, Protestant, graduate Vanderbilt University, priority IV. Available after completing hospital requirements for Internal Medicine Boards on July 1, 1955. LW-132

A 32 year old, married physician, Protestant, graduate Indiana University Medical School, board qualified Urologist. Being relieved from active duty. Desires clinic. Available July, 1955. LW-133

A 31 year old, married physician, Baptist, graduate Johns Hopkins, presently on active duty. Desires general surgery, clinic, assistant or associate. Available July 1, 1955. LW-140

A 30 year old married physician, Catholic. Graduate St. Louis University. Board qualified in dermatology February 1, 1955. Priority IV. Available April 1, 1955. LW-145

A 27 year old, married physician, Episcopalian. Graduate University of Arkansas. At present General Practice Residence. Terminates June 30, 1955. Available July 1, 1955. LW-146

A 32 year old, married physician, Canadian, Protestant. Graduate "U" Manitoba, Winnipeg, Manitoba. Desires general surgery. Would consider clinic, industrial, assistant or associate. Available February or March, 1955. LW-148

A 34 year old, married physician, graduate University of Arkansas. Priority IV. Desires General and Thoracic Surgery. Clinic assistant or associate. Available anytime after January 1, 1955. LW-149

A 32 year old, married physician, Methodist. Graduate Washington University. Applied for FACS and eligible for National Boards, March, 1955. Priority IV. Desires surgery. Available July, 1955. LW-150

A 46 year old, married physician, Seventh-Day Adventist, graduate College of Medical Evangelists, Loma Linda, California. Board eligible in General and Thoracic Surgery in July, 1955. De-

sires clinic, assistant or associate. Available July, 1955. LW-151

A 27 year old, married physician, graduate Tulane University, taken Part I, American Board of Internal Medicine. Completing military service. Desires Internal Medicine of Cardiology, clinic, Associate. Available July 1. LW-152

A 28 year old, married physician, Methodist, graduate University of Pennsylvania. Three years residency training in Ob. Gen. Priority IV. Desires Clinic, Associate. Available July 1. LW-153

A 37 year old, married physician, Protestant, graduate Medical College of Virginia. Board eligible for American Board of Surgery. 24 months military service. Desires general practice with surgery. Available anytime. LW-156

A 43 year old, married physician, Episcopalian, graduate University of Chicago. Board Certificate American Board of Orthopedic Surgery. Completing military service. Available December 12, 1954. LW-157

A 36 year old, married physician, Protestant, graduate University of Louisville. Three years (board approved) training in Internal Medicine. Priority IV. Desires Industrial Medicine with special interest in Internal Medicine. Available after January 1, 1955. LW-158

A 30 year old, married physician, Southern Baptist, graduate Vanderbilt University. Reserve Officer. Desires general practice, assistant or associate. Available July, 1955. LW-159

A 27 year old, married physician, Protestant, graduate University of Illinois. Passed Part I of American Board of Internal Medicine, will take Part II in May. Completing military service. Desires Clinic, assistant or associate, or industrial. Available July, 1955. LW-160

A 31 year old, married physician, Protestant, graduate Bowman Gray. Four years general surgery, residency approved, American Board eligible. Priority 5-A. Available July 1, 1955. LW-161

A 28 year old, married physician, Protestant, graduate University of Tennessee. At present Interning. Desires General Practice, Clinic, Assistant or Associate. Available August 1, 1955. LW-162

A 36 year old, married physician, Episcopalian, graduate University of Tennessee. Board qualified internal medicine. Will be discharged from Navy March 1, 1955. Desires Internal Medicine, assistant or associate. Available March 1, 1955. LW-163

A 44 year old, married physician, Protestant, graduate Medical College of Virginia. Draft exempt. Desires general practice in community 5,000-10,000. Desires East Tennessee. Available April 1, 1955. LW-164

A 30 year old, married physician, Protestant, graduate St. Louis University, desires general practice in community 10,000-30,000. Clinic, assistant or associate acceptable. Desires East or Middle Tennessee. Available late Spring, 1955. LW-165

A 33 year old married physician, Protestant, graduate University of Cincinnati. Board certificate Urology. 36 months previous military service. Community preferred 50,000. Available July 1, 1955. LW-166



# Journal of the Tennessee State Medical Association

OWNED AND PUBLISHED BY THE ASSOCIATION

Volume 48

APRIL, 1955

Number 4

## OUR SACRED TRUST\*

CHARLES C. TRABUE, M.D., Nashville, Tenn.

There are more than ninety scientific papers scheduled to be read at this meeting of our Association and its allied societies. Our House of Delegates, Board of Trustees, and many committees will spend innumerable hours considering scientific, business and economic problems and making plans for our activities during the coming year. In addition, a little time has been set aside for fun and relaxation. This paper will not deal with a scientific or business subject, and it is by no means humorous. You have done me the great honor of election to the highest office in the Association, and this is my opportunity to thank you for your confidence and to pledge my devotion to the stewardship of my office. I have chosen to speak tonight on a philosophic subject, not because I am qualified to do so, but rather because I believe it to be a fitting subject for an Inaugural Address.

The members of this Association have the highest degree of education of any large group in the State of Tennessee. We all know that the cost of obtaining higher education is great but it is important for us to frequently remind ourselves that the obligations of the man who is highly educated are still greater. He who has taken advantage of his inherent abilities, and of his opportunities, in order to attain a high level of education, has thereby assumed a greatly increased obligation to himself, and to his family, and to society. There is no field of higher education in which this fact is so true as it is in the field of medical education. The actual cost to a university of furnishing a medical education is far in excess of the funds obtained from tuition fees. This deficit must be made up by tax monies

or by subsidies from other sources. But the fact remains that each graduate from a medical school is indebted to society for the privilege of higher education. Of still greater importance is the fact that on the day that we received a medical degree, we accepted into our hands for safe keeping the responsibility for the maintenance of health and the preservation of life itself. Thus we were granted, and we accepted, a sacred trust which we must always cherish as inviolable and not to be profaned. This trust, to my mind, is just as sacred as that held by a Doctor of Divinity. Our education is different from that of almost every other profession or trade in that none of the courses which we studied were concerned with consideration of pay or profit, nor of how to take advantage of the public. Every course in the medical school curriculum is designed to qualify our students to be of humane and compassionate service to their fellow man. A consideration of these facts makes us very proud to be members of a profession which has such noble motives, and one which allows us such rich opportunities for service. Surely, we will forever be indebted to our profession itself, and we must not allow any selfish or mercenary interest to make us violate the sacred trust which we hold, both individually and collectively.

Idealism in the practice of Medicine can be a fascinating dream. Let us indulge ourselves for a few moments in such a fantasy and let us envision a doctor who is so idealistic that his every activity is motivated by a desire to bring credit to his great profession. There is nothing unrealistic about such a vision. Certainly each of us has known such selfless men. And there can be no doubt that these men have not only done more for their community, but

\*Inaugural Presidential Address read before the Tennessee State Medical Association, Chattanooga, April 11, 1955.

they have also done more for themselves than have those men who have defiled their sacred trust for motives of personal profit. There is in each of us a certain conflict, every day, of idealism versus materialism, and the outcome of this conflict is a measure of our character.

Our idealistic doctor is happy to be a member of a profession which has such a proud heritage of ideals and traditions, and he endeavors to live up to these standards, adding his bit to the prestige which has been handed down to him by past generations of physicians. He must strive to blend humanitarianism and science in his daily practice, not in such a way that he will be considered good in comparison with his fellow practitioners, but rather that he will be doing the best of which he, as an individual, is capable. In order to keep himself qualified as an able physician in this day of never ending scientific advances, he must spend a considerable portion of his time in study and in attending scientific meetings for the exchange of knowledge with his confreres. He must also apply himself to the development and perfection of the various technics and skills which are peculiar to his chosen art. It is only in this way that he can really be prepared to make the proper decisions, and to take skillful action when confronted with the problems and emergencies of every day practice.

Every doctor faces a new patient with the desire to make an accurate diagnosis and to put into action a course of treatment that will be curative. This necessitates a complete history of the patient, as well as a thorough physical examination, often augmented by tests from the laboratory and X-ray departments. But our doctor who is idealistic has additional motives in the handling of the patient. He wants his patient to feel, when the treatment is finished, that his doctor was not only learned and skillful, but also that he was sympathetic, and kind, and understanding that although he was busy, he was never hurried, that although he was often tired and harassed, he was never ill-tempered nor impatient. Good medical care can be taken for granted in the United States today. But the real key to an improved position of respect for our

profession lies in the relationship between the individual patient and his doctor. It is a temptation for the doctor to be somewhat self-important and even a little pompous, to adopt an attitude of independence, and to brush aside the questions of his patients concerning the details of diagnosis and treatment. In this way he may well satisfy his own ego but he will certainly not gain the respect or friendship of his patients. Our idealistic doctor, on the other hand, is anxious not only to cure the ills of the body, but also to quiet the uneasiness of the mind, and alleviate the mysterious fears that torment almost every patient who finds it necessary to consult the doctor. We demand that the patient have complete confidence in all that we prescribe. We must strive manfully to inspire such confidence and to deserve it. The fact that we have so much more scientific knowledge than did our grandfathers in the profession, does not mean that we have to sacrifice any part of the warm friendly relationship that they had with their patients; a relationship that made them so greatly loved and respected by their generation. We must offer more than just pills and cold steel. If a doctor follows these ideals is it not likely that his patients will be grateful and will respect not only him but the profession at large and that they will be anxious to help us on those projects in which we seek to enlist the aid of the public? Our profession has been constantly, and will be constantly, beset by serious economic problems. Many of these problems are political in nature and are settled by men in public office. Each of these men has his own doctor and his philosophy toward the medical profession is largely influenced by his personal relationship with that doctor. And every constituent, who seeks to influence each office holder, also has a doctor. The question is, do these people love and respect their own doctor or has he missed his opportunity by allowing them to develop a feeling of resentment or cynicism toward him? I can tell you from personal experience in our last State Legislature that one politician, who has a grievance against one doctor, can be a stumbling block to the passage of any legislation sponsored by the medical profes-

sion. It is on this basic principle of good doctor-patient relationship that the future of medical practice rests.

Another very important phase of this relationship is the financial transaction. It is often quite difficult for the doctor to conscientiously decide what is the proper charge to make in a given case because of the many intangibles which are involved. If he charges what seems to the patients to be too much, then he may lose the respect and good will which had been previously established. But the fact that our doctor is idealistic does not mean that he should be improvident for himself and his family. We all have to meet a pay roll, pay taxes, rent and insurance, so that the number of take-home-pennies that is left out of the earned dollar is discouragingly small. A busy doctor is entitled to a good income when one considers the high cost of his education, the short span of his fruitful years, the long and irregular hours of his work, and the mental anguish occasioned by difficult diagnoses and treatment that have gone awry. Our Grievance Committees have proven that the vast majority of patients who complain of being overcharged are simply unaware of how much service they have received, or that the doctor has been unaware of the fact that the payment of his fee would amount to a hardship. These misunderstandings can be prevented in the majority of instances, if we will take a few moments to discuss the cost of treatment with the patient, preferably before the treatment is instituted. This is not to imply that patients are never called on to pay exorbitant fees. You know, and I know, that there are a few doctors who would lower their work to the level of a trade. Ambition for wealth must certainly be one of the principal reasons underlying those rare cases of deliberately unnecessary surgery of which we hear so much. It must also be the motive for those cases of deliberately unnecessary medication, such as shots three times a week, month after month, which although not quite so dramatic, and not quite so easily pointed out by one's confreres, is nonetheless just as reprehensible. Unless we take vigilant action to protect the public from these few tradesmen in our ranks, then we

deserve to lose our standing as an honorable profession.

Leaving for the moment further consideration of the doctor-patient relationship, let us look into the obligation of the doctor to his community. We occasionally hear a doctor say that he spends a good deal of his time taking care of charity patients and that in this way he discharges his obligation to his community, both as to his time and his financial resources. Such a doctor forgets one of the obligations imposed by his status as a highly educated citizen. Every doctor by virtue of his education and daily experiences has certain qualifications that render him capable of being of great service in the planning and implementation of any activity designed for the improvement of the community. His education gives him an ability to study and grasp the problems at hand, separating facts from supposition, and his daily intimate contact with patients gives him an insight into human nature and human needs which few other citizens have. Our idealistic doctor will feel that it is a real privilege for him to have the opportunity to use these talents in helping to solve the problems of his community, or of his state, or of his country. He knows that his unselfish service in various civic clubs, committees, commissions and boards will reflect credit on his entire profession, and that his actions will help to eliminate the often heard complaint that doctors do not share in community work. If he feels that he is not qualified to help in these matters it is because he has not tried. The citizen who refuses to lend his talents in the solution of the problems of his community really does not deserve to enjoy the benefits of our democracy. He might well be more public spirited if he gave serious thought to what his fate would be if he lived in one of those countries where the average citizen has no real voice in public affairs.

We have considered the relationship of the doctor to his patient and to his community and now would like to consider his relationship with his medical society. If every doctor in this great Association could attend the annual meeting of the House of Delegates and listen to the reports of the Officers and of our many active committees



he would no longer have any doubt of the value of this society to him. Those committee reports tell briefly what hundreds of the members of our society have been doing throughout the year to promote the interests of our Association and its individual members. These activities are principally in the fields of the education and the welfare of our membership and of the public. If you could spend a day in our headquarters office and study the activities of that staff you would be convinced that the dues which you pay are the best investment that you could possibly make.

So much for the value of our society to you. Now of what value are you to your Medical Association? Are you carrying your share of the load or are you riding free? If you are a member of one of our numerous committees have you really done your part in the work of that committee? If you are a member of the House of Delegates have you really deliberated about the problems before the House or have you just voted on a spur of the moment type of decision? What is more important, have you followed the practices of our idealistic doctor during the year in your contacts with

patients? Have you done all that you could do, in your community activities, to reflect credit on your profession?

I believe the sentiments that I have expressed tonight are your sentiments. None of us measures up to all of the standards of the idealistic doctor we have discussed but it is well to keep his good example before us. It should give us courage to remember the tribute paid to our profession by Robert Louis Stevenson in these words:

"The physician is the flower, (such as it is), of our civilization, and when that stage of man is done and only remembered to be marvelled at in history, he will be thought to have shared as little as any in the defects of the period, and most notable exhibited the virtues of the face." The fact that we find ourselves surrounded by dishonest practices and devotion to materialism in other walks of life should serve to strengthen our faith in the lofty precepts of our own profession. If we remain loyal to our sacred trust it may well be that our profession will rise as a stalwart lighthouse, to guide the members of a confused society to a better way of life.

**Hypophysectomy in Human Diabetes: Kinsell, Lawrence, Balch, and Weyand. Adrenalectomy in Human Diabetes: Wortham and Headstream. Adrenalectomy in Human Diabetes: Martin and Wilson. Editorial: Randall G. Sprague, Diabetes, Vol. 3, No. 5, 1954.**

These three articles and editorial present the current knowledge and opinion on hypophysectomy and adrenalectomy for unstable diabetics with progressive degenerative vascular disease.

Theoretically, clinical diabetes, from the endocrine standpoint, is the result of two factors—relative or absolute lack of hypoglycemic factor, and relative or absolute excess of pituitary or adrenal hyperglycemic factor. Progressive vascular disease associated with chronic extreme fluctuation of blood sugar is a major result in juvenile diabetes. The only therapeutic approach to stabilizing diabetes is diet and insulin, which is often inadequate, or possibly hormonal. Kinsell and others reported four cases in whom hypophysectomy changed insulin resistant diabetics to insulin sensitive ones. Patients selected had evidence of progressive renal or retinal damage associated with diabetes difficult to control. Two

died of vascular disease within five months of surgery.

Wortham and Headstream report adrenalectomy on seven diabetic patients with advanced vascular disease. Evaluated 5 to 15 months postoperatively, most needed less insulin. Two showed minor remissions of vascular disease, and in three no further progress occurred. Favorable results occurred in inverse proportion to the severity of the degenerative vascular changes.

Eastman and Martin report adrenalectomy in the case of a young woman with diabetes and intercapillary glomerulosclerosis. Surgery was performed because of the otherwise hopeless outlook. Death occurred 11 months later from adrenal insufficiency as cortisone was reduced to relieve the malignant hypertension which had developed.

Editorializing in the same issue, Dr. Randall Sprague indicates that these procedures are still in the clinical investigative stage, and that the benefits may not justify the means. Actual clinical evidence of the direct contribution of the adrenal or pituitary glands to degenerative vascular disease in diabetes remains scanty, and much more study is needed. (Abstracted for the Tennessee Diabetes Association by Jean Murray Hawkes, M.D., Memphis.)

## IN OUR HOUSE ARE MANY MANSIONS\*

JOHN R. THOMPSON, JR., M.D., Jackson, Tenn.

We are here tonight to discuss our house and the many mansions contained therein. About a year ago we spoke to you of many of these mansions. What is the state of our house one year later?

We called your attention to the abuses of voluntary health insurance prevalent at that time. Since then many of the insurance companies have been cited by the Federal Government for violations and abuses that we outlined then. And in our own State a law was introduced to prohibit the small print in insurance policies. However, the situation grows worse. Physicians are discontented, the people are discontented, and the insurance carriers are discontented. Many physicians feel that people well able to pay their way are taking advantage of the fee schedule of the Tennessee Plan and are, therefore, setting the doctors' fees—especially do they resent someone in the office of the insurance carrier setting their fee.

Insurance carriers are attempting to write in violent competition with one another and rapid talking agents are misleading the purchasers. Some are being confused innocently by the many varieties of coverage. I know of instances where next-door neighbors with what they believe to be the same policy are confused because one had his hernia repaired at the insurance company's expense while the other was forced to pay for his because his policy had a pre-existing clause in it. They merely belonged to different groups. Certainly, it had been explained, but it did not register. Therefore, voluntary health insurance received another kick in the pants.

Our postgraduate program definitely needs study and modernization. When the circuit-rider plan was first installed in Tennessee in the mid-1930s, it was by far one of the most progressive steps taken in the history of Tennessee medicine. However, in twenty years, times and events have pro-

gressed. It now costs this Association ten thousand dollars annually and, with contributions from Vanderbilt University and the University of Tennessee together with the generous help of the Department of Health of the State of Tennessee and tuition of the participants, brings to thirty-two thousand dollars the annual budget. We believe a much more effective program for less money is possible.

Many abuses against ourselves are rearing their ugly heads constantly. We realize that an insignificant percentage of physicians engage in unethical practice. This small percentage, however, reflects upon the whole as the one rotten apple in the barrel. If the termite of unethical actions rots the supporting sills of the house of medicine, tear them out and build anew. We must continue to build and support this house with sound timbers. "If your arm offend thee, cut it off."

The problem of social and economic racial equality has been studied for years by the best minds of all the races. In our society prejudice and the fear of a disturbed economy have been the stumbling blocks to the solution of the problem. Individually, the medical profession has made little or no distinction in a man's color, creed, or economic status, but the profession as a whole has not faced up to the problem and taken a definite lead in the solving of its perplexities. If an individual is qualified, he should be allowed to accept the privileges which go with that qualification, regardless of race, creed, or the color of his skin. Courageous societies within our midst have taken this step. To them our congratulations.

But we must add one bit of warning. It is of the greatest importance that we have harmony in the Association. To accomplish this both the old and new members must use self-control and tact. Both must use restraint in their attitudes and not allow outside influences to push them into conflict. The leveling influence of time must be allowed. If so, all will be well.

We set up last year the goal of the best

\*Address of the retiring President, read before the Tennessee State Medical Association, Chattanooga, April 11, 1955.

possible medical care for all the peoples of Tennessee. We realize that we are far from the culmination of this goal, but through the efforts of several of our mansions, we believe we have made very definite progress. We must again dedicate ourselves to the fundamental philosophy that organized medicine must assume an active role in the medical affairs of local communities, materially assist and assure the medical care for all the people of the areas over which we represent. Your Society recommended to the Third Conference on Medical Care in the Bituminous Coal Mine area that we adopt a positive approach of public service and professional performance as follows:

I. Acting as a group exactly as a conscientious doctor as an individual, provide:

- (a) Complete medical care for the indigent.
- (b) High quality care and facilities for those who can pay but who are medically isolated.

II. In mutual trust, practice the highest ethics in both the dispensing and the purchasing of medical care.

III. Stimulate and use the interest and energies of other organizations which can contribute much to the extension of medical care, such as—labor groups, city and county governments, women's clubs, lawyers, legislators, the clergy, schools and institutions, the farm bureaus, the dental associations and nurses organizations.

IV. Demonstrate to management the advantages of protecting the health of the workers and enlist material and moral support of employers.

V. Employ throughout this program the theme of "helping others to help themselves," rather than doling out services with directed regimentation.

To this, the Conference replied, "... the progress made in meeting the health problems of marginal income areas reflects credit upon the medical profession of Tennessee and its medical schools. It benefits the entire medical profession by its favorable effect on public opinion." This progress has been accomplished through the Tennessee Medical Foundation and the untiring efforts of the Chairman of our Liaison Committee to the U.M.W.A. We commend

membership and action in the work of the Foundation as part of the obligation of medicine to which we have dedicated our lives.

The Tennessee Plan for complete medical care of the indigent is now the law of the State of Tennessee. Many other states are watching with a great deal of interest in the success or failure of such a startling development in the complete medical care of all the people. Over 50 of Tennessee's 95 counties have seen fit to join the Plan. A request for adequate funds to finance this forward step has met with complete refusals and the offering of a token appropriation which not alone retards the progress of the Plan but offers definite possibilities for its ultimate failure. This in spite of pre-election promises of active support and actual incorporation of the Plan as an election promise. "A promise made is a promise kept."

We have advanced far in our relations with other groups. Our success in the Clear Fork Valley, at Wartburg and at La Follette are direct results of cooperation of several groups for the benefit of the people as a whole.

We have joined with the legal profession of the State of Tennessee in the production of medico-legal forums across the State. These forums have led to a better understanding and closer relationship between the two professions and should be but the beginning of many more such gatherings not only with the lawyers, but with the dentists, the pharmacists, and other groups. Better understanding between groups leads to better relations which can mean but one ultimate result—better living and happier lives for all the peoples.

Will Rogers once said there never was a man he couldn't like once he got to know him. We realize we cannot always all agree but we can, we should, and we must make a very great effort to understand each other.

We have visited every component society to which we were invited. We have visited with the profession from the bluffs of the Mississippi on the West to the snow-capped mountains on the Virginia and North Carolina border on the East. Tennessee medicine is alive and virile. It can only continue to advance in the future as it has the past



year by the wholehearted support to your new president. He stands for the highest things in medicine. The baton will pass into excellent hands. As we reach the end,

I can leave no better thought in your heart than the words of the Psalmist to Solomon! "Except the Lord build the house, they labour in vain that build it."

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**Cardiology for the General Practitioner. G. E. Burch, J.A.M.A. 157, March 26, 1955.**

This article gives a broad general viewpoint of many recent advances in the examination and treatment of patients with diseases of the circulation.

Antibiotics have proved most useful in the prevention and treatment of the pulmonary and urinary tract complications in the cardiac, and frequently curative in the treatment of subacute bacterial endocarditis.

In the field of diagnosis, electrocardiography, the use of X-rays and cardiac catheterization are lauded. It is emphasized that cardiac catheterization is indicated infrequently. Reliance is placed in the clinical differentiation of congenital cardiac lesions. Vectocardiography and ballistocardiography are two methods of examination which are as yet somewhat experimental and much less useful than a full understanding of electrocardiography.

The low salt diet and low sodium diet are used too completely and too frequently. They are certainly indicated in severe congestive failure, but ordinary failure can be handled by less strenuous routine methods. The low fat diet is still of dubious value in the treatment of arteriosclerosis, as emphasized by the fact that the Eskimo whose diet is 68% fat in caloric origin has no unusual tendency to develop arteriosclerosis. Indeed his serum cholesterol and serum lipid level are often below normal.

For acute and chronic hypotensive states Arter-nol is extremely useful. If the drug must be given intramuscularly, Neosynephrine hydrochloride is preferable.

In the treatment of hypertension, Hexamethonium, Apresoline, Pentolinium, tartrate and Rawa-lfia compounds are discussed. Their indications and methods of employment are gone into with

some detail. A farewell is given to the surgical sympathectomy, in the wake of the new chemical methods of approaching the same end result that the surgical treatment brings about.

The mercurial diuretics are discussed with emphasis on repeated small intramuscular injections, rather than large, infrequent, intravenous injections. The need for the supervision of these agents by observation of the serum electrolytes is pointed out. Diomax has a limited use as a diuretic.

There is an excellent paragraph on peripheral vascular disease with stress given to the fundamentals in examination of peripheral arterial and venous blood flow. Careful attention to these fundamentals, such as the character of the skin, hair, nails, and the volume of the arterial pulsation, and the variations in venous filling in different positions, makes skin temperature investigation and oscillometer studies superfluous. Medical management including exercise, weight reduction, avoidance of stress, and discontinuance of tobacco are most important.

There is a brief discussion of isotopes. The author's attitude toward radioactive iodine ( $I^{131}$ ) in the treatment of congestive failure or intractable angina, seems a bit conservative.

Finally, Burch makes a strong plea for fundamental thinking and for careful exercise of fundamentals in the examination. His plea that "there is too much gadgeteering in new procedures and too little application of the established fundamental ones in general clinical medicine," and his statement that "the tendency to use new unproved gadgets and drugs must be considered objectively and in light of the best interest of the patient," will bring concurring Amens! from many readers of this interesting article. (Abstracted for the Middle Tennessee Heart Association by Albert Weinstein, M.D., Nashville.)

Here are presented examples of esophageal lesions and their management.

## LESIONS OF THE ESOPHAGUS AND THEIR SURGICAL MANAGEMENT\*

ROBERT I. CARLSON, M.D.,† Nashville, Tenn.

During the past two years we have seen a number of interesting esophageal lesions, representative examples of which I would like to present and discuss. The cases to be reported are: two cases of carcinoma of the esophagus, an acquired tracheobronchial-esophageal fistula of nonmalignant origin, a pharyngo-esophageal diverticulum, a stricture of the distal third of the esophagus arising as a complication of a hiatus hernia, and a bolus obstruction of the distal third of the esophagus due to an impacted mass of undigested food.

*Case 1.* (Reg. No. 17-665.) This 51 year old, colored male was admitted to the Nashville V. A. Hospital on April 18, 1949, with a history of dysphagia of 2 months duration. For 2 weeks prior to admission the dysphagia was complete. There was a history of blood-streaking of regurgitated liquids and food for one week prior to admission. There was a weight loss of 34 pounds during the present illness.

*Physical examination* was not remarkable, save that the patient showed some evidence of recent weight loss. There was no evidence of hepatomegaly nor of distant lymph node metastases. X-ray study of the esophagus on April 19, 1949, revealed an obstructive lesion at the junction of the lower and middle thirds of the esophagus which extended to involve nearly all of the distal third of the organ (Fig. 1). A metastatic X-ray survey was negative. On April 20, 1949, esophagoscopy revealed a nodular tumor, biopsy of which revealed a squamous cell carcinoma (Fig. 2).

*Operation.* On May 4, the patient was explored\*

\*Read at the Regional Meeting of Chiefs of Surgery and Anesthesiology of the Veterans Administration, Atlanta, Georgia, May 21, 1954.

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Reviewed in the Veterans Administration and published with the approval of the Chief Medical Director. The statements and conclusions published by the author are the result of his own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

\*Operation was performed by Dr. Robert S. McCleary, presently in practice in Great Falls, Montana.

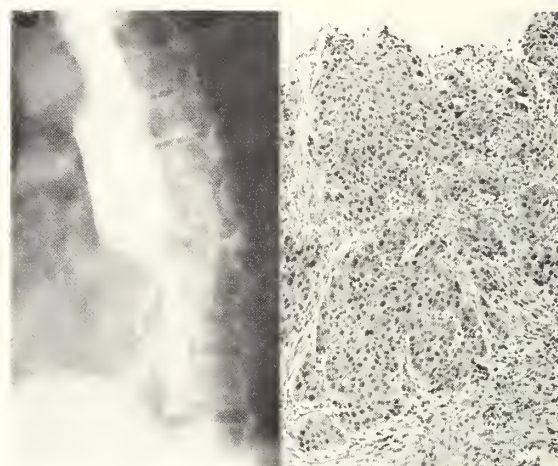


FIG. 1

FIG. 2

through the left chest and a tumor approximately 6 cm. in length was found in the distal third of the esophagus. The organ was readily mobilized, though the tumor was adherent only to the mediastinal pleura. On exploration of the abdomen through the diaphragm, enlarged lymph nodes were found along the course of the left gastric artery, but there was no evidence of hepatic involvement. A resection of the distal half of the esophagus was carried out and a supra-aortic esophagogastrostomy was performed. Histological examination of the specimen confirmed the diagnosis and tumor-containing lymph nodes were found in the mediastinum as well as those along the course of the left gastric artery. The chest was drained under a water-sealed trap. The patient's postoperative course was quite satisfactory and he was discharged on leave 16 days following the procedure. This patient has been followed at six-month intervals since the time of operation, and when last seen on May 17, 1954 (a little more than 5 years following the procedure) he had no evidence of recurrence. He was swallowing without difficulty and was maintaining his weight. He works daily as a domestic.

*Comment.* This patient is presented as a five-year survival following resection of a carcinoma of the distal third of the esophagus, with positive lymph node involvement at the time of surgery. This patient was explored through the left chest because of the location of the tumor in the distal third of the organ.

*Case 2.* (Reg. No. 43-083.) A 56 year old,

white male was admitted to the Nashville V. A. Hospital on November 22, 1952, with a 4 months history of progressive dysphagia. On admission he was able to swallow only liquids. There was a history of a 10 pound weight loss during the present illness.

*Physical examination* revealed a man who showed evidence of recent weight loss. There was no hepatomegaly and no evidence of local lymph node involvement. *X-ray examination* of the esophagus revealed a filling defect in the middle third of the organ, with partial obstruction (Fig. 3). On December 1, an esophagoscopy and an



FIG. 3



FIG. 4

ulcerative lesion was noted at a point 22 cm. distal to the incisor teeth. Bronchoscopy was performed at the same examination, and revealed no evidence of invasion of the tracheobronchial tree. Microscopic examination of the biopsy revealed an anaplastic squamous cell carcinoma of the esophagus.

*Operation.* On December 16, 1952, this patient was explored through a combined cervical thoraco-abdominal incision. The initial incision was made in the right chest, the fifth rib being resected subperiosteally. A tumor mass was noted in the esophagus at the level of the azygos vein. The esophagus was readily mobilized for there was no extension of the tumor into the surrounding viscera. After resectability had been established, the thoracic incision was closed with through-and-through sutures and a left subcostal incision was made through the previously prepared abdominal wall. There was no evidence of extension of the tumor into the abdomen, the liver being free of metastases. Both curvatures of the stomach were then completely mobilized, sparing the right gastric and the right gastro-epiploic arteries. A pyloromyotomy was performed in order to overcome the effects of a bilateral vagus section. The

right crus of the diaphragm was then incised so that the esophageal hiatus would readily admit three fingers. The abdominal incision was then closed.

The thoracic incision was reopened and the entire thoracic esophagus was mobilized. The stomach was then pulled up through the enlarged diaphragmatic hiatus into the right chest. It was then noted that in order to section the esophagus with an adequate margin above the upper extent of the tumor a very high anastomosis between the esophagus and the stomach would be required. To obviate the technical difficulties of performing this anastomosis in the thoracic inlet, a third incision was made in the neck along the course of the anterior border of the right sternocleidomastoid muscle. After the thyroid gland had been mobilized and retracted medially and the recurrent laryngeal nerve had been protected, the cervical esophagus was isolated from the overlying trachea. At this point in the procedure an enlarged lymph node was found between the esophagus and the trachea at the level of C-7, later histological study showed that it contained metastatic anaplastic squamous cell carcinoma. The esophagus was transected 2 cm. distal to the cricopharyngeus muscle. The abdominal esophagus was then transected at the cardio-esophageal angle and the specimen was removed (Fig. 4). The excised portion of the cardiac end of the stomach was then closed in two layers with silk. A new opening was made in the fundus of the stomach, which was now drawn up through the thoracic inlet into the cervical incision. A very easy two-layer anastomosis was then carried out between the cervical esophagus and the stomach just below the cricoid cartilage. All wounds were then closed in layers, the cervical incision being drained by a small Penrose drain which was removed 48 hours after operation. The patient's postoperative course was satisfactory, although he did develop a hernia in his abdominal incision. The patient was able to swallow well until the time of his death, 11 months following operation. The cause of death was massive metastases to the liver. At post mortem there was no evidence of recurrence of tumor in the mediastinum, nor was there tumor at the site of anastomosis between the stomach and the cervical esophagus.

*Comment.* This patient is presented as an example of a multiple incisional approach to a tumor found in the middle third of the esophagus. We feel that tumors in this region are best approached through the right chest, in contradistinction to those of the distal third of the organ, which are best approached through the left pleural space. The addition of a cervical incision makes a technically difficult anastomosis quite easy, for it is carried out almost at the level of the skin.



**Case 3.** (Reg. No. 47-875.) This 38 year old, colored male was admitted to the Nashville V. A. Hospital on November 2, 1953, as a transfer from the Murfreesboro V. A. Hospital. This patient was a schizophrenic who was largely out of contact with reality and the history was very inadequate. About 2 weeks prior to admission to our hospital one of the attendants at the Murfreesboro Hospital noted a small amount of blood on the bed sheeting on awakening the patient. In order to determine the source of the blood loss, an X-ray study of the upper gastrointestinal tract was ordered. The radiologist, Dr. Abrams,\* on fluoroscopy found that the barium appeared to leave the esophagus to enter the mediastinum. The examination was discontinued and the patient was given lipoidal by mouth. The presence of a fistulous communication between the esophagus and the mediastinum was confirmed by appropriate X-ray studies. The patient was then transferred to the Nashville V. A. Hospital for further study and treatment.

There was no history of the ingestion of a caustic agent or of the swallowing of a foreign body. In 1950 the patient had had a bout of diffuse pneumonitis, X-ray films taken at that time revealing infiltration throughout the entire right lung field. The patient recovered completely within 7 days on penicillin therapy and seemingly had no residua following this illness.

*Physical examination* revealed a very well developed and well nourished male in no acute distress. There was no difficulty in the swallowing of food while in the upright position, but when water was taken in the supine position he had a paroxysm of coughing, expectorating the water through his tracheobronchial tree. X-ray examination on November 9, 1953, with lipiodol, revealed a fistulous tract passing from the middle third of the esophagus out into the right lower lobe, and a cavity was noted in the superior segment of the right lower lobe (Fig. 5). On November 17, 1953, the patient was taken to the operating room, where an esophagoscopy was done under general anesthesia. There was no evidence of a tumor, either of the esophagus or of the tracheobronchial tree. The orifice of the fistulous tract was noted to be a distance of 32 cm. from the incisor teeth; there was no inflammation around it. The point of entrance of the fistulous tract into the tracheobronchial tree could not be visualized through the bronchoscope. A Levine tube was then introduced through the esophagoscope to a point beyond the fistulous tract and the esophagoscope was removed.

*Operation.* The patient was then turned on his side and the right chest was entered through the bed of the fifth rib. The fistulous tract was readily identified, leaving the right lateral wall of the esophagus just above the level of the right inferior pulmonary vein, entering the mediastinal

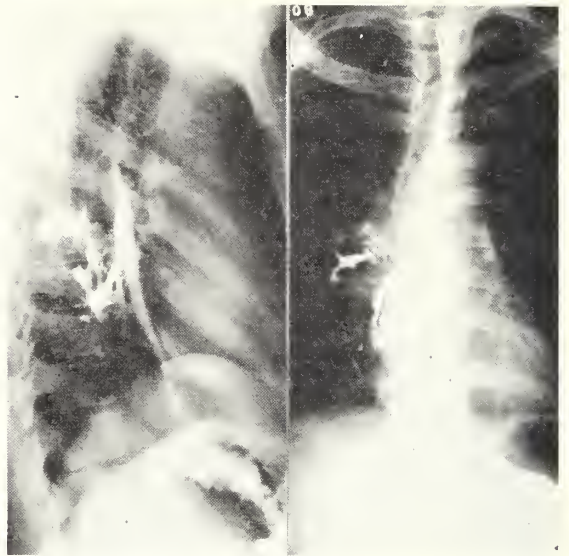


FIG. 5

aspect of the medial basal segment of the right lower lobe. There was induration throughout the right lower lobe; there was no evidence of a tumor. The fistulous tract was readily separated from the inferior pulmonary vein, and a right lower lobectomy was done (Fig. 6). The fistulous

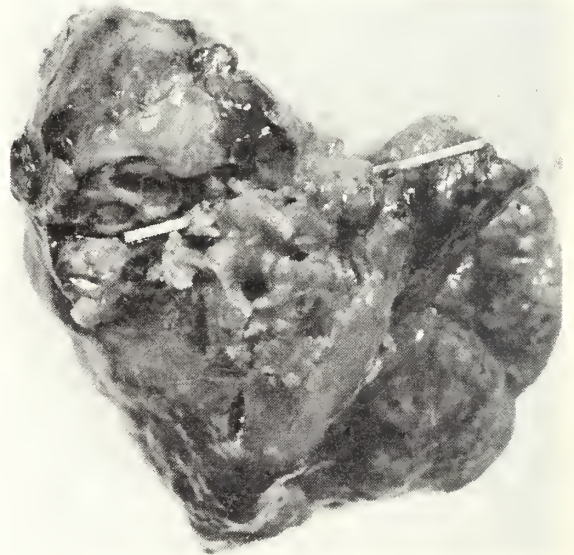


FIG. 6

tract was divided at its point of entrance into the esophagus without difficulty, the defect in the esophageal wall was closed in two layers with interrupted silk sutures and the suture line was covered by a pleural flap. A tracheostomy was done, for it was felt that the patient might not be cooperative during the postoperative period. His convalescence from the procedure was essentially uneventful, the tracheostomy tube being removed on the twelfth postoperative day and the patient was transferred back to the Murfreesboro V. A. Hospital on December 16, 1953.

\*This case is being reported independently by Dr. Abrams.

Histological study revealed a fistulous tract lined with stratified squamous epithelium which entered into a bronchiectatic bronchus of the medial basal segment of the right lower lobe. The other lower lobe bronchi were also bronchiectatic, and deep within the substance of the superior segment there was a cavity which was lined by respiratory epithelium. Since this patient was essentially asymptomatic prior to the bleeding, it is best to classify the etiology of this fistula as being unknown.

*Comment.* This case is presented as an example of an acquired nonmalignant tracheobronchial-esophageal fistula, a relatively rare lesion. Hughes and Fox<sup>1</sup> reported two cases of the nonmalignant variety and reviewed the literature through August, 1953. At that time there were 84 reported cases of this lesion, 22 per cent being of unknown etiology.

*Case 4.* (Reg. No. 47-449.) A 57 year old, white male was admitted to the Nashville V. A. Hospital on October 2, 1953, with a history of intermittent dysphagia for 10 years. There was regurgitation of food which has been ingested 8 to 10 hours previously when the patient slept on his right side or assumed the recumbent position. There was no history of weight loss.

*Physical examination* showed no abnormalities save for the presence of a positive McNealy<sup>2</sup> sign on the right. (This maneuver consists of having the patient swallow several times, followed by palpation on either side of the cricoid cartilage. If unilateral gurgling is produced by pressure in this manner, the side to which the diverticulum presents is readily identifiable.

A barium study of the esophagus revealed a 4½ x 6 cm. pulsion diverticulum at the pharyngo-esophageal junction (Fig. 7).

*Operation.* The patient was operated upon on October 20, under general anesthesia, through an approach along the anterior border of the right sternocleidomastoideus muscle. The diverticulum was readily found and isolated. The junction of the diverticulum with the pharyngo-esophageal region was circumsised, the neck of the sac transected, the diverticulum removed, and the defect in the esophageal wall closed in two layers with interrupted fine silk sutures. The postoperative course was uneventful. The patient was discharged on the 21st hospital day, with no difficulty in swallowing. This patient has been followed 6 months, without evidence of recurrence.

*Comment.* This case is presented as an example of a pharyngo-esophageal diverticulum, most easily approached through the right side of the neck rather than the conventional left-sided approach described in textbooks of surgery. The value of de-



FIG. 7

termining by physical examination the site of presentation is, we feel, of value in making the operation as easy as possible.

*Case 5.* (Reg. No. 48-768.) A 57 year old, white male was admitted to the Nashville V. A. Hospital on January 5, 1954, with a chief complaint of dysphagia. This patient had been seen in this hospital in 1949, at which time a gastrointestinal series revealed the presence of a small asymptomatic esophageal hiatus hernia. The patient had no trouble with the hernia until 11 months prior to admission, when he noted intermittent bouts of dysphagia which subsided spontaneously. For one month prior to admission there had been complete dysphagia for solid food and he was able to take liquids only. There was a weight loss of 15 pounds. The patient had noted on occasion the presence of tarry stools but had never vomited blood. He complained of substernal burning on the ingestion of fluids, and he frequently had heart burn.

*Examination* revealed a man who was moderately obese, weighing 190 pounds; there was some pallor of the skin and mucous membranes. The red blood count on admission was 3,780,000, the hematocrit 35. A barium swallow on January 5 revealed a hiatus hernia, with some stricture of the esophagus just proximal to the herniated portion of the stomach (Fig. 8). The remainder of the gastrointestinal examination was negative. On January 11 esophagoscopy was done which showed evidence of a diffuse regurgitation esophagitis over the distal 6 to 8 cm. of the esophagus; there was no ulceration but the mucosa bled readily. There was evidence of some stricture of the distal esophagus which would accept a No. 18 F. dilator.



**Operation.** On January 20, the patient was explored through an abdominal incision. The esophageal hiatus was exposed with some difficulty. The hernia was readily reduced, and the crura were approximated behind the esophagus with interrupted silk sutures. A diseased gallbladder was removed at the time of this operation. Postoperatively the patient did well, with complete subsidence of the sensation of substernal burning on swallowing.

Postoperative esophagoscopy was carried out on February 20 and showed complete subsidence of the regurgitation esophagitis. At this time a course of dilatations of the stricture over a string was begun. The dilatation being carried up to a No. 45 French dilator. At this time the patient was able to swallow without difficulty and was discharged. Postoperative esophagram is shown in figure 9.

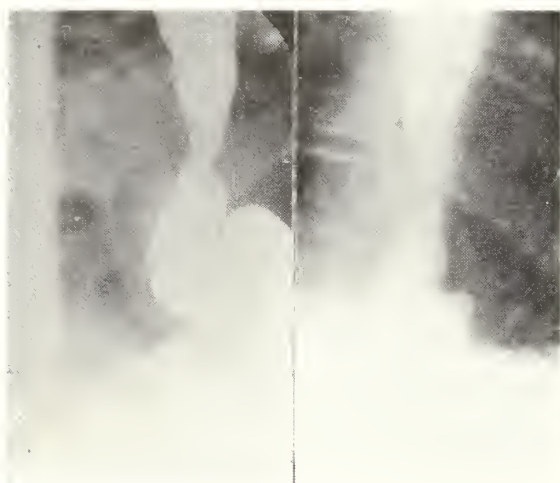


FIG. 8

FIG. 9

**Comment.** This case is an example of a stricture of the distal esophagus as a complication of a sliding type of hiatus hernia with a regurgitation esophagitis. Although it was known at the time of operation that this patient did have a stricture, no attempt was made to resect the stricture for fear of sacrificing the cardio-esophageal junction. We feel strongly that the integrity of the cardio-esophageal junction is of paramount importance in preventing regurgitation esophagitis with its many complications. Rather than to sacrifice this man's cardio-esophageal junction, it was felt that an operative repair of his hiatus hernia followed by instrumental dilatation of the esophagus would be the most feasible manner in which to take care of his difficulty.

**Case 6.** (Reg. No. 49-326.) This 58 year old, white male was admitted to the Nashville V. A.

Hospital on February 10, 1954, with a history of having ingested a bolus of meat (pork) which became impacted in the thoracic portion of the esophagus, causing complete obstruction. The patient was seen by his physician shortly after the appearance of substernal pain and regurgitation. He attempted to pass a Levine tube into the stomach, but was unsuccessful and so referred the patient to this hospital, where he was seen for the first time 36 hours after the accident. On admission he was not acutely ill; there was no evidence of perforation of the organ nor of mediastinitis. He was unable to swallow liquids or solids, and regurgitated esophageal secretions. An esophagram taken on admission is shown in figure 10.

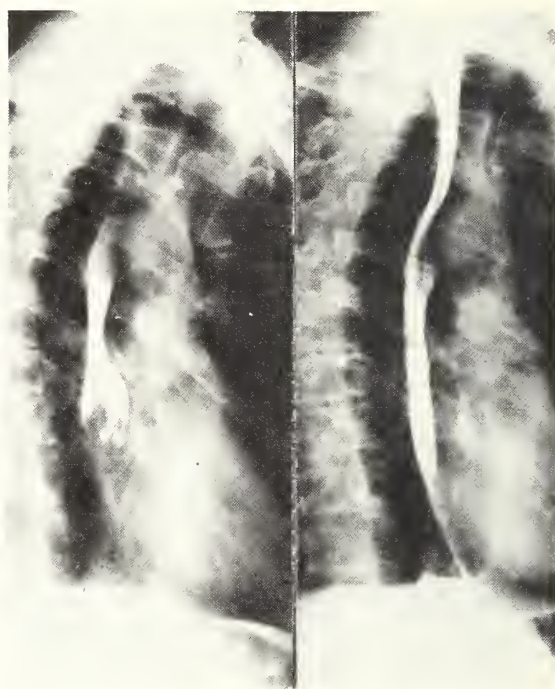


FIG. 10

FIG. 11

This patient had presented himself at this hospital in September, 1948, with a similar complaint, and at that time esophagoscopy was successful in removing an impacted bolus of chicken meat. Following this procedure the patient had a complete study, with esophagoscopy and barium studies, and no organic stricture at the point of impaction was found. The patient was provided with dentures and cautioned to chew his food more thoroughly, and had had no difficulty until the present admission.

An attempt was made to dissolve the bolus of meat with papain solution (as described by Richardson<sup>3</sup>) rather than to subject the patient to esophagoscopy 36 hours after the impaction. The patient was given 4 cc. of a 5% solution of papain in a 10% alcoholic vehicle every 15 minutes for 6 hours. At the end of this time the patient was swallowing without difficulty and a second esophagram (Fig. 11) revealed no evidence of obstruction.



tion in the middle third of the esophagus. The patient had some evidence of irritation in his pharynx, but this subsided within the course of the next 48 hours. Esophagoscopy was done on February 19 and showed no evidence of an esophageal obstruction. The patient was discharged, being cautioned to masticate his food more thoroughly in the future.

*Comment.* This case is presented as an example of the efficacy of papain solution in dissolving impacted masses of food. The ingestion of small amounts of a 5 per cent solution of the drug every fifteen minutes resulted in a dissolution of the mass during the course of six hours, without any harm to the patient.

### Summary

Six cases of esophageal lesions are presented, with a brief comment on our present concept of the diagnosis and management of these lesions.

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*This is from a general practitioner who has occasion to give much anesthesia.*

## ANESTHESIA IN GENERAL PRACTICE

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### General Remarks

Although it is hardly possible for a doctor doing general practice to have as complete knowledge of the field as a full-time anesthesiologist, it is quite possible to acquire sufficient information and skill to practice safe and satisfactory anesthesia.

Probably 10 per cent of my practice is represented by anesthesia. I have either done entirely or supervised closely approximately 1,000 instances of anesthesia. There have been two fatalities, both preventable had I known at the time what I know now. I feel my experiences are worth relating, not because anything new will be added, but because they demonstrate that the giving of anesthesia may be practiced successfully in general practice. This also gives some degree of condensation to a broad field.

It is better to become thoroughly familiar with one type of procedure than to know a number of others less well. For example, I have always used Pontocaine for spinal anesthesia. There are probably other agents equally as good or possibly better, but I have found this one to be satisfactory and see no reason to change. A procedure should be reduced to its simplest form. This saves time and minimizes the chances of error.

In the items presented in this paper, my views are represented. This does not mean that my way is the only way nor necessarily the best way, but it represents what I know is workable in daily practice. Certain books have been found very helpful and excellent\* as references.

### Preoperative Care and Premedication

It is important for the anesthetist to talk with the patient before the operation, preferably the day before, to answer the ques-

tions he wishes to ask. He may dread anesthesia, particularly the spinal type. The anesthetist should answer his questions and put his mind at ease. In children, it is very important that the parents explain in advance what is going to happen. This usually makes the difference between a terrified, screaming child, and one who goes to sleep relatively easy.

There is an excellent premedication chart in Cullen's book. In adults, scopolamine gr. 1/150 and Demerol 100 mg. is used. For old people or the poor risk patient, the dose could be reduced to scopolamine gr. 1/300 and Demerol 75 mg. For age five years and under and 75 years and over, I use atropine, not scopolamine, as advised by Cullen. Scopolamine allays anxiety and dries up the respiratory secretions. Demerol lowers the level of reflex irritability and thereby decreases the amount of anesthetic agent required. If a child is terrified of "shots," Seconal or Nembutal may be given by rectum, the dose depending on weight and age. *All premedication is given intramuscularly 45 to 60 minutes before the anesthesia is begun.* Before any anesthesia is started, the stomach should be empty. The order on the chart is, "Nothing by mouth after midnight," before the operation in the morning. In emergency surgery, if there is food in the stomach, a spinal anesthesia should be used if not contraindicated. In any case if there is food in the stomach and the operation can possibly be delayed, it is very important to wait a minimum of 12 hours before surgery to allow the stomach to empty itself.

If anemia is present, it should be corrected. A hemoglobin of 11 Gm. or more should be required before surgery. If excessive blood loss is anticipated, cross matched blood should be on hand ready to give. In an emergency, Type O blood can be given regardless of the type of the patient.

### Anesthesia in Children

For small children Vinethene induction

\*Cullen: "Anesthesia in General Practice."  
Guedel: "Signs and Stages of Anesthesia."  
Lundy: "Clinical Anesthesia."  
Adraini: "Techniques of Anesthesia."

is used. It works more rapidly than ether and must be given much more slowly. After the child is no longer aware of his surroundings, drop-ether is started. This has the widest margin of safety but one must be careful to allow sufficient air and not have heavy layers of gauze or the mask surrounded by towels or other cloths to keep the air out. It takes 10 to 15 minutes to reach surgical anesthesia in this manner and it should not be rushed. On the other hand, ether should be dripped rapidly, not poured, and should be well distributed over the area of the nose and face and not in one small spot. Occasionally it is useful to give Pentothal rectally to children when full anesthesia is not needed. The child is only given enough of the drug to produce a light sleep. Painful stimulation will arouse him. Some uses for this method would be in taking skull films when it is necessary for the child to be motionless, or in changing painful dressings, or in removing a large number of sutures. One should never rely on Pentothal rectally to produce surgical anesthesia, however, and should not even attempt setting fractures with this. The dose of 2.5 per cent solution of Pentothal given rectally is 0.6 to 0.8 of the body weight in pounds, e.g., for a 20 pound baby it would be  $0.6 \times 20$ , or 12 cc. of a 2.5 per cent Pentothal solution.

In tonsillectomies and adenoidectomies the head should be lower than the feet so blood and mucous will gravitate to the posterior pharynx and can be removed by suction. This position will lessen the likelihood of aspiration into the trachea. At the conclusion of the operation the child should be placed on his abdomen with the head turned to one side so that bloody secretions will flow out more readily.

#### Anesthetic Agents

The principal agents in use are: ether given by the open drop, or as a nitrous oxide—oxygen—ether (called G.O.E.) combination; Cyclopropane; conduction anesthesia; and Pentothal, nitrous oxide—oxygen—Pentothal mixture.

Any of these agents work well if properly used and can be deadly if improperly used. In general, it may be said that within reason the skill and experience of the anes-

thetist is more important than the anesthetic agent selected.

#### Stages and Signs of Anesthesia

Since the stages and signs are most clear cut with ether, it will be used for illustration. Ether may be given by the open-drop and this is entirely satisfactory. Giving it by means of an anesthetic machine has some advantages, however, inasmuch as the induction with nitrous oxide is more pleasant, and artificial respiration with 100 per cent oxygen can be done at any time by manual compression of the breathing bag. Also the stages of surgical anesthesia may be reached more quickly. There are four stages of anesthesia (not perfectly delineated as yet) and certain signs are present in each stage.

*Stage One.* This extends from the beginning to a complete loss of consciousness. Considerable analgesia is present. In many patients this stage can be utilized for extraction of teeth, incision and drainage of abscesses and other procedures which do not require any muscular relaxation. Before the procedure is started the doctor must explain what will happen and how the patient will feel. The best subjects for this are moderately intelligent people who are not frightened and are able to cooperate. The anesthesia must not be allowed to go beyond the point where the patient loses voluntary control. If it does go beyond this point it should be lightened.

*Stage Two.* To pass through this stage requires 2 to 10 minutes. This extends from loss of consciousness to the beginning of the third stage. It is a period of excitement with usually at least some purposeless motion of the body and extremities, and often wild activity so that the patient must be forcibly restrained for a short time. All muscles are tense and the eyelids when opened will immediately close when released. Breathing is irregular and deep.

*Stage Three.* This stage is divided into four planes, depending on the degree of muscular relaxation.

*Plane 1.* This begins when the breathing becomes regular and the wink reflex is no longer present. Motion of the eyeballs is present and toward the end of this plane the



vomiting, swallowing and gag reflexes disappear.

Plane 2. Respirations are fairly deep and regular, and muscular relaxation is better. The eyeballs are motionless and centrally fixed. The depth and length of inspiration and expiration are equal and a short pause follows expiration. Most surgery may be done in this plane.

Plane 3. Respirations are regular but not as deep. Inspiration is shortened.

Plane 4. Expiration is much longer than inspiration. Breathing is irregular, shallow, and rapid. A more pronounced pause follows expiration. Breathing is done mostly with the diaphragm which causes the abdominal wall to move rather violently. The pulse rate increases and the pupils are dilated. This plane should not be reached. It is dangerous and may be fatal. The blood pressure falls, cyanosis may be present. Due to the use of the accessory muscles of respiration in the neck, the jaw retracts with inspiration and this is known as the "tracheal tug." It is an easily seen sign.

*Stage Four.* No respiration is present and artificial respiration must be carried on.

#### Technic of Administering the Various Anesthetic Agents

##### 1. Ether

(a) Open Drop. A suitable ether mask is used with one layer of stockinette or a few layers of gauze. The layer must not be too thick to permit sufficient air to get in; I do not wrap a wet towel around the edges of the mask because cyanosis may not be noticed. The ether is begun slowly, at say 10 drops a minute, the patient breathing through his mouth. The ether is increased as rapidly as tolerated. If the patient complains of discomfort, it can be slowed down and the mask be taken off momentarily. As soon as consciousness is lost, ether is dropped on, not poured in a stream, as rapidly as possible.

(b) Gas—Oxygen—Ether. There are different ways of using this combination. It just happens I have found this system satisfactorily. The breathing bag and tubing is flushed out with nitrous oxide to dispel any unpleasant odor. Then with the bag empty the nitrous oxide is set on *two liters and the oxygen on 500 cc.* This gives 20 per cent

oxygen and 80 per cent nitrous oxide. The bag is partially filled with this mixture, the mask held over the patient's face and shortly thereafter strapped down with some word of explanation and reassurance to the patient. After about two minutes, or when consciousness has been lost, ether is slowly begun. It is gradually increased as rapidly as the patient tolerates it. *At the same time the ether is begun the soda-lime absorber is turned off and the patient rebreathes his own carbon dioxide. This stimulates respiration and will make for faster induction.*

After the third stage is reached the nitrous oxide may be decreased gradually or at once. If in passing through the second stage coughing, marked swallowing, vomiting or prolonged holding of the breath occurs, the ether concentration is too strong and the bag must be emptied and filled with gas-oxygen mixture alone, and ether begun again gradually. After the third stage has been reached, the carbon dioxide absorption can be turned on and the patient will no longer breathe his own carbon dioxide. After the anesthesia has been going on for 10 to 15 minutes it is desirable to empty the breathing bag to get rid of the nitrogen if the bag has not already been emptied as stated above. There is considerable variation due to age, temperament, physical and chemical state of the patient, but as a rough guide after about three-fourths to one ounce of ether is given, the patient is past the period of excitement (stage 2). For an anesthesia that lasts two hours a total of two to four ounces of ether may be given. If the anesthesia lasts three to four hours, three to six ounces of ether may be required. The alcoholic is notoriously harder to induce and requires more ether. As will be outlined later, the patient should be maintained in plane two of the third stage for most surgery. For the few cases where more muscular relaxation is required plane three is necessary.

##### 2. Pentothal—Gas—Oxygen

I am opposed to giving Pentothal alone and do not believe it should be used for abdominal surgery or any surgery which requires much muscular relaxation, such as a hemorrhoidectomy or reduction of a lower

extremity fracture. There is a much smaller margin of safety with Pentothal than with ether. The dosage required for surgery and the lethal dose is not greatly different, and by injecting a few cubic centimeters of Pentothal one may quickly put the patient into severe respiratory depression. When a mixture of 50 per cent nitrous oxide and 50 per cent oxygen is used with Pentothal, there is some anesthetic effect from the nitrous oxide and there is a higher concentration of oxygen than in room air. Both factors reduce the hazards of Pentothal, the former by reducing the amount of Pentothal needed and the latter by giving more oxygen. Also by observing the breathing bag on the anesthesia machine one can more accurately follow the patient's respiration or lack thereof.

The actual technic of administering the agents should be as follows: Prepare a 3.33 per cent solution of Pentothal by dissolving one gram of Pentothal in 30 cc. of saline or distilled water. Give intravenously 1 cc. as a test dose and wait one minute. If no reaction occurs, give 5 cc. while the patient is asked to count out loud. Then at one to two minute intervals, 2 cc. may be given until the patient does not respond to painful stimulation such as pinching. As soon as consciousness is lost the breathing bag may be strapped to the face and the nitrous oxide-oxygen mixture started. As in all inhalation anesthesia one must be constantly alert as to the patency of the patient's air way. Often it is necessary to keep pressure on the angle of the jaw forward and upward. It is desirable and sometimes essential that two persons administer the anesthesia. One controls the intravenous injections and the more experienced one maintains the open air way. The patient should be carried as lightly as possible without marked slowing of the respiratory rate and close to the point of "waking up," as characterized by phonation, movements or breath holding.

### 3. Conduction Anesthesia

a. Local Infiltration. Any local anesthetic agent is capable of causing a toxic reaction and it can be fatal. Although a possible fatality may arise only once in a doctor's professional life, if he knows what to do a

life may be saved. It is said that 99 per cent of toxic reactions are due to either too rapid injection into a very vascular area such as the anorectal region or accidental intravenous injection. Reactions may be immediate or delayed, the latter occurring usually within 15 minutes. The symptoms of this reaction are excitability, feeling of faintness, then drowsiness, then coma, or it may be drowsiness alone. Often one should talk to the patient during the infiltration and thereby have a close check on the mental state. In the severe immediate reaction, death is sudden because of both cardiac and respiratory failure. However, artificial respiration (preferably with the anesthesia mask and pure oxygen) should be given and could be life-saving. In the delayed reaction there is hypotension and usually a slower and weaker pulse. If severe, a vasopressor agent (such as ephedrine sulfate) should be given intravenously in 15 mg. doses every three to five minutes until the original blood pressure is restored. Also artificial respiration should be started if the reaction is sufficiently severe. If convulsions occur, a soluble barbiturate should be given in an amount sufficient to stop the convulsions, yet with as small a dose as possible. Often two grains of Pentothal will suffice.

Procaine (Novocaine) is the most commonly used agent. Xylocaine is being used more generally. If more than an hour's anesthesia is desired as in a pudendal block, epinephrine may be added in concentration of 1:100,000 or 1:200,000. This would be about 0.2 cc. of the usual 1:1,000 solution. The concentration should be as weak as possible and the total injection should be as minimal as possible and still achieve the desired effects. The maximum dose of a 1 per cent Procaine solution is 60 cc.

b. Nerve Block. The one I have found most useful is the pudendal block in deliveries. Occasionally a wrist block is used. These techniques may be found in Cullen's book. In the pudendal block, after a skin wheal is raised midway between the anus and ischial tuberosity on both sides, 10 cc. of 1 per cent Xylocaine is deposited just medial to the tuberosity and 10 cc. at the ischial spine. The anesthetic may be start-

ed any time after the beginning of the second stage and if a long second and third stage is anticipated, epinephrine may be added, to allow time for episiotomy repair.

c. Spinal Anesthesia. The following describes only one method and one drug which has proven satisfactory in the author's experience. In my admittedly limited experience, it has been found that spinals should not be used for surgery above the level of the umbilicus. It is excellent anesthesia for anorectal operations which require relaxation of the sphincter muscle. A mixture of 3 to 10 mg. of Procaine, 1.0 cc. of 10 per cent glucose and 1.0 cc. of 1:1,000 epinephrine is used. The glucose increases the specific gravity and provides a greater degree of control of the level of anesthesia. The epinephrine prolongs the duration of anesthesia to three hours or longer. Ten mg. of procaine is the maximum dose. In pregnancy or at term, one-half the maximum dose of 5 mg. is used. This is sufficient for cesarean section and the author believes spinals to be the anesthetic of choice in this operation because it causes less fetal depression than any other.

For surgery of the vagina and anorectal region, a 3 mg. dose may be given with the patient sitting upright and remaining so for three minutes. This procedure produces a "saddle block." Generally there is less vomiting and nausea from the spinal anesthesia than from ether. It should not be used when shock is present or anticipated, because part of the vasomotor reflexes are paralyzed and cannot adapt to the fall in blood pressure.

After the Procaine-glucose-epinephrine mixture is injected into the spinal canal, several pillows are quickly placed under the head and shoulders, and the position of the operating table changed from horizontal to Trendelenburg. The pillows prevent a too high level of anesthesia being produced, but this must be closely followed for thirty minutes after which time no further depression can be expected. Ephedrine sulphate, gr.  $\frac{3}{8}$ , is given intramuscularly 15 minutes before the spinal puncture and a tuberculin syringe is filled with the ephedrine is ready for 3 to 5 minim doses intra-

venously if the blood pressure falls too much following onset of anesthesia. For the first 15 minutes blood pressure and pulse are checked at two minute intervals and then at five minute intervals.

#### Analgesia and Anesthesia in Obstetrics

After labor is well established with good contractions, and the cervix dilated 4 cm. or more, 75 mg. of Demerol and gr. 1/150 of scopolamine are given intramuscularly or intravenously (preferably). After three hours the scopolamine may be repeated, though this is often not necessary. Four hours after the initial injection of Demerol another 50 to 75 mg. of Demerol may be given, though neither this nor the scopolamine should be given within two hours of delivery. Except in certain rare instances the scopolamine may be given, since this does not produce fetal depression. If there is any likelihood of fetal depression due to the drugs, Nalline should be given intravenously 5 to 10 minutes before delivery. In general, one should be very careful not to produce fetal depression with these or any other drugs used.

Trilene inhalations are used intermittently during the second stage, just before and during contractions. It may be used before the second stage in certain cases. If pain is severe or an episiotomy is anticipated, a pudendal block may be done. If the infant is born with depression from a drug, the physician must be careful not to become panicky and injure the baby by vigorous overstimulation. Usually gentle spanking of the sole of the foot will produce crying. Artificial respiration may be given by a sawing motion of the baby's body. Before any resuscitation is done, the mouth and throat should be aspirated. I have not found the DeLee intratracheal catheter to be practical. Oxygen is of value only if the baby is breathing. Practically all babies will eventually breathe if only gentle stimulation is used, but it is difficult to sit still and wait. If the placenta hasn't separated Nalline may be given into the umbilical vein. A baby who has been depressed or premature should be placed in a prewarmed incubator and kept under the direction of the physician in the delivery



room. By and large, it is much better to prevent infant depression than to have to treat it.

### Intratracheal Anesthesia

Every hospital which has an anesthetic machine should have a doctor or nurse sufficiently trained to use intratracheal tubes. A patient who is not breathing for any reason may be given artificial respiration by this means with 100 per cent oxygen more effectively than by any other method. The tubes range in size from 000 to 8. The laryngoscope blades come in three sizes—infant, child and adult. I know of no other means by which a tonsillectomy under general anesthesia may be done in an adult. For surgery about the neck and mouth it is often a "must" to provide more room for the surgeon and to insure a patient airway. In the poor risk patient a tube should be used because it may be necessary to breathe for the patient by manually compressing the breathing bag.

The technic of intratracheal intubation is described in any of the texts listed in the bibliography. It is not a difficult procedure in most instances but the acquisition of this skill should be done under the direction of a qualified anesthesiologist.

### Recognition and Treatment of Shock

In order to intelligently treat hypotension during surgery, one must have some knowledge of the changes which occur in shock. Shock is a condition which is characterized by a disparity between the circulating blood volume and the vascular bed. Very simply and incompletely it may be said that in anesthesia there are two kinds of shock.

1. *Primary* (also called neurogenic). The vascular bed is abnormally enlarged. This type of shock is characterized by very little change in pulse rate, though a deterioration in its quality and a fall in blood pressure. It can be produced by stimulation of a nerve plexus such as the celiac or the carotid sinus, by abrupt changes in position or abnormal positions, and in spinal or caudal anesthesia. If some stimulation or activity which is producing the hypotension can be

stopped, this should be done till stability is restored, e.g., manipulation in the area of the celiac plexus. If the normal blood pressure is not quickly restored, ephedrine intravenously should be injected at three minute intervals in 15 mg. dose until normal pressure is restored.

2. *Secondary* (also traumatic or surgical shock). This is produced by a decrease in the circulating blood volume. It may be caused by hemorrhage, plasma loss as in burns, bile peritonitis, dehydration, etc. It is characterized by an increase in the pulse rate. This precedes a fall in blood pressure and hence is a more delicate index of impending shock. When fully developed, pallor, sweating, clammy skin are present.

Treatment is directed toward restoring the normal blood volume whether it be blood, plasma or electrolyte depending on the cause. In hemorrhage, blood only should be used and in general most cases of shock of this type are produced by blood loss and hence blood is the most important replacement. Oxygen also is indicated. Anesthesia must be as light as possible. The vasopressor drugs are contraindicated.

It is of great importance to have an accurate initial record of the pulse and blood pressure. A pressure of 90/60 may be normal for some people, and 120/80 may indicate shock in another. Hence the recordings at 5 or 10 minute intervals are more important than isolated readings. It is of the utmost importance to anticipate shock and prevent it rather than to wait till it is full blown and then attempt to treat it.

### Postoperative Care

It is not necessary to use a large dressing with much adhesive tape. A small, folded layer of gauze to cover the wound and one wide strip of adhesive to hold this in place is all that is necessary. This is much more comfortable and also more economical. The so-called "gas pains" following surgery are due to partial paralytic ileus and are best relieved by having the patient take a few steps with the help of an assistant. In most cases this will relieve these cramps better than anything.

*The early diagnosis of intestinal obstruction is essential to adequate management, which may mean the saving of life.*

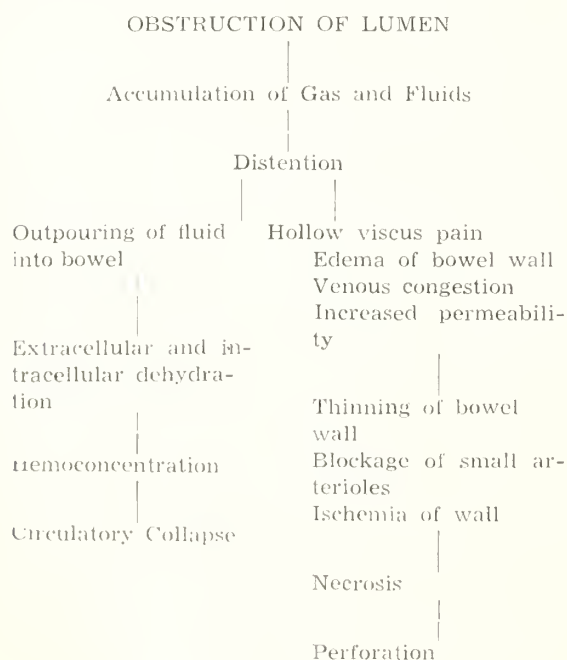
## INTESTINAL OBSTRUCTION\*

W. EDWARD FRENCH, M.D., Memphis, Tenn.†

During the past 20 years, numerous advances have improved the results and increased the extent of elective abdominal surgery.<sup>1</sup> With intestinal obstruction, however, the improvement in results is not commensurate with those of other abdominal surgical cases. Although the reason for this has not been explained, we have come to believe that the maintenance of a high mortality rate in cases of intestinal obstruction must be due to the failure of early diagnosis and the delayed application of proven sound therapeutic principles.<sup>2</sup> Therefore, the points that are pertinent are those applicable to early diagnosis and those pertaining to sound therapeutic principles.

### Types of Obstruction

Before proceeding into a discussion of the reasons for failure in early diagnosis, it is necessary to understand the pathologic physiology and to classify the types of obstruction so that a better understanding of this problem can be obtained. The pathologic physiology can be briefly reviewed from the following table:<sup>2</sup>



All types of intestinal obstruction can be classified into one of three groups: I. Mechanical; II. Vascular; III. Neurogenic.

The types of intestinal obstruction can be further divided by listing the causes of each type.

- I. Mechanical
  - (1) Hernia
  - (2) Adhesive
  - (3) Neoplastic
  - (4) Intussusception
  - (5) Volvulus
- II. Vascular
  - (1) Mesenteric thrombosis
  - (2) Volvulus
  - (3) Any untreated mechanical
- III. Neurogenic
  - (1) Adynamic ileus
  - (2) Paralytic ileus

The above classification is important, but from a practical standpoint intestinal obstruction should be divided into two real groups, i.e., simple and strangulated.<sup>3</sup> The reason being, that in simple intestinal obstruction, regardless of cause, the mortality rate is rather low and compares very favorably with any abdominal surgical emergency. When one searches the literature and compares the mortality from various causes of intestinal obstruction the figures are approximately as follows:

|              |        |
|--------------|--------|
| Simple       | 3%     |
| Strangulated | 20%    |
| Viable       | 5%     |
| Non-viable   | 40-50% |

Therefore, from the above table we readily see that the most important factor in the treatment of intestinal obstruction is whether or not strangulation is present and, if so, whether or not the gut has become gangrenous. The above fact is true regardless of the type of obstruction or the cause.

\*Presented to the Tri-County Medical Society, Dyersburg, Tenn., October 6, 1954.

†From the Department of Surgery, University of Tennessee School of Medicine, Memphis, Tenn.

Since the mortality rate climbs tremendously in those cases of intestinal obstruction in which gangrenous gut is found, either from a vascular occlusion, or in a too-prolonged untreated case of simple obstruction, it certainly behooves us not to delay in our diagnosis and to better differentiate between simple and strangulated obstruction.

### Diagnosis

Since there are few more positive indications for surgical intervention than intestinal obstruction with a coexistent embarrassment of blood supply,<sup>2,4</sup> one's attention should be directed toward a better understanding of this condition.

We learned earlier that any type of mechanical obstruction that may be considered a simple obstruction will become a strangulating type if left untreated. We also know that a strangulating bowel obstruction can be of two types:<sup>1</sup> (1) external, such as strangulation in an inguinal hernia, and (2) internal. The first of these offers no real diagnostic problem. However, the second, the internal type, is the one where errors are frequent and mortality rates are high. It is to the recognition of this condition we must direct our attention.

Errors in the diagnosis of strangulating internal obstruction are due to one of the following:<sup>4</sup>

- (1) Cause of obstruction is concealed;
- (2) There is no single pathognomonic sign of internal strangulating obstruction;
- (3) A similar picture results from many other abdominal conditions.

Therefore, we feel that a correct diagnosis of internal strangulating obstruction can be made if the available diagnostic criteria incident to the lesion are carefully searched for and interpreted. What are these criteria?

A comparison of the diagnostic features of simple obstruction to that of strangulating obstruction will be most revealing. If these points of difference are readily understood, the diagnosis of internal strangulating obstruction should not be too difficult.<sup>2,3,4</sup> The differential diagnosis is presented in the following table.

### DIFFERENTIAL DIAGNOSIS BETWEEN SIMPLE AND STRANGULATED OBSTRUCTION

|                                  | <i>Simple</i>   | <i>Strangulated</i>  |
|----------------------------------|---|--|
| Pain                             | Onset gradual; less severe, tends to disappear during periods of inactive peristalsis                               | Onset sudden and severe; usually constant with exacerbations                     |
| Vomiting                         | Begins after onset of pain; may not be present in low obstruction; usually occurs at height of peristaltic activity | Occurs at onset of pain; severe, continuous, no relation to peristaltic activity |
| Shock-like State                 | Appears late in course of obstruction; not very ill in early stage  | May appear early; persistent with progressive severity                           |
| Position of Patient              | Does not affect   | Usually lying in one position  |
| Inspection                       | Distention present  | Distention present, may not be marked  |
| Palpation                        | Tenderness may be local, seldom rigidity  | Tenderness usually generalized, rigidity present                                 |
| Auscultation                     | "Tinkling," hyperactive peristalsis   | Usually silent   |
| X-ray Film of Abdomen            | "Step ladder"   | Usually one loop   |
| Response to Conservative Therapy | Good  | Poor   |

Once a positive diagnosis of strangulating obstruction is made, surgical intervention becomes mandatory. While this is true, there remain, however, certain facts that cause many to stumble in the proper handling of cases of intestinal obstruction even after a correct diagnosis has been made. These are:<sup>4</sup>

- (1) The preoperative preparation
- (2) The time at which the operation is to be carried out
- (3) The type of surgical procedure

### Preoperative Preparation

One of the most important preoperative preparatory measures is that of decompression. This is done by means of gastric or intestinal tubes passed through the nose or mouth. This serves three purposes. First, and probably the most important, is to stop vomiting and to prevent further loss of fluids and electrolytes. Second, to remove



excessive gas and fluids trapped within the small intestines. This alone will cause marked improvement in these patients. It will prevent a case of simple obstruction from becoming a strangulating type as a result of the prolonged distention. And third, if the intestines have been decompressed, surgery can be made much easier for the surgeon and can be tolerated much better by the patient.

At this point a word of caution should be offered as to the abuses of tube decompression. We know that if abdominal pain, in a case of intestinal obstruction, is due to distention alone, tube decompression will relieve this pain. It will prevent changes in the bowel wall as a result of distention. Persistent pain, however, is a bad omen, and one should not continue tube decompression without early surgery in such patients. By the same token, a rise in pulse and temperature and an increasing white cell count, a worsening of the patient's general condition in the face of tube decompression is a bad omen. It is also a mistake to allow patients to drink freely while tube decompression by suctioning is in operation."

The second, and equally important step, in preoperative preparation is the replacement of fluids and electrolytes. No subject in medicine today enjoys more study and confusion than do fluids and electrolyte imbalance. No sooner did we learn the milligrams per 100 cc. of the various electrolytes until we changed to milliequivalents. Therefore, now we have to be able to transpose milligrams per 100 cc. to milliequivalents. This can be done by the following conversion formula:<sup>5</sup>

$$\frac{\text{Mg. per 100 cc.} \times 10}{\text{Atomic wgt.}} \div \text{valence} = \text{mEq.}$$

Therefore, now we not only have to remember this formula, but we have to know the valence and atomic weight of each electrolyte. This can go on *ad nauseum*.

For practical purposes, there are two simple methods of determining the amount of fluid that needs to be replaced. For dehydration alone, it is a simple matter to estimate the percentage on the basis of total extracellular fluids; i.e., roughly, 12 to 14

liters. Thus, if one is 25 per cent dehydrated, which is severe dehydration, he would need 3 to 4 liters of fluids. Also, it is known that in severe dehydration, an individual has lost approximately 6 per cent of his body weight expressed in kilograms.<sup>5</sup> In moderate dehydration, he has lost 4 per cent of his body weight. To correct his dehydration, he must be given the amount equal to per cent loss times body weight. Therefore, a patient weighing 70 kilograms (154 lbs. divided 2.2 = 70 kilograms) who is moderately dehydrated (4 per cent) needs  $70 \times 4 = 2.8$  liters of fluids. We have also found that one unit of blood should be given with every three units of fluid.

It is simple then to overcome the dehydration. But how do we overcome the electrolyte imbalance? First, there is a correctional imbalance of sodium, chloride, potassium, and bicarbonate. How can we determine the exact amount of each to give in preparation for surgery? Those of us who are fortunate enough to have access to a laboratory, such as the one at the Baptist Memorial Hospital in Memphis, can readily obtain the exact value of various electrolytes. It is then a simple matter to tell how much of each electrolyte will be needed. However, there are those who do not have a twenty-four hour laboratory service available and who again must resort to other means of determining the needed electrolytes. From a practical standpoint, and in an overwhelming majority of cases, the amounts of electrolytes needed can be roughly estimated. However, the signs and symptoms of the excess or lack of each substance should be clearly understood. We know that the daily requirement of sodium chloride is in the neighborhood of 9 Gm., and of potassium —2 Gm. Then, in order to roughly determine the amount of table salt and potassium that is needed, simply determine how many days the patient has gone without his daily requirement. If he has been vomiting and retaining no food or water for two days, he will require approximately 18 Gm. of salt to which 4 Gm. of potassium chloride has been added.

It seems to me that one of the most important diagnostic and prognostic points

comes into play at this point. A patient who is in shock from intestinal obstruction and who has responded well to the preoperative preparation, has a good chance of recovery. On the other hand, a patient who shows very little response to preoperative preparation, provided it is adequate, is in serious danger and his chance of recovery is not so good.

### The Time for Operation

It has already been stated that the indication for surgery in strangulating obstruction is immediate. The principal concern is whether or not the patient's general condition will withstand the surgery. In simple obstruction, surgery should be carried out after adequate preoperative preparation has been completed. It must be recalled, however, that in strangulating obstruction, despite adequate treatment of shock, dehydration, and electrolyte imbalance his general condition does not improve. Any delay to await improvement after a thorough trial is extremely dangerous. Surgery should be undertaken in spite of the poor condition.

### Type of Surgery

The last point I wish to discuss is the type of surgery that is necessary. One must never forget that in emergency operations the prime concern is to save the patient's life. No additional procedure should be done. Since adhesive obstruction is the most frequent, and since 80 per cent of adhesive obstructions occur in the terminal ileum, a right rectus incision is the one of choice. Once the abdomen is entered, collapsed gut is located, and traced to the point of obstruction. Care is taken not to handle distended gut and to keep it covered with moist warm lap packs. Evisceration should not be done unless absolutely necessary.

As to the aspiration of the distended gut

during emergency, much has been said. Many ingenious devices have been offered to aseptically remove the fluid and gas from the distended loops of gut. In an overwhelming majority of cases this should not be necessary. If proper and adequate preoperative decompression has been done, one should have no trouble closing the abdominal incision.

If small intestine is found gangrenous, a resection and anastomosis should be done as quickly as possible. The type of anastomosis has little to do with the final outcome. We now know that a side to side anastomosis is not necessary. If the colon is found gangrenous, an exteriorization procedure producing a temporary colostomy may be all that is necessary and all that the patient may tolerate.

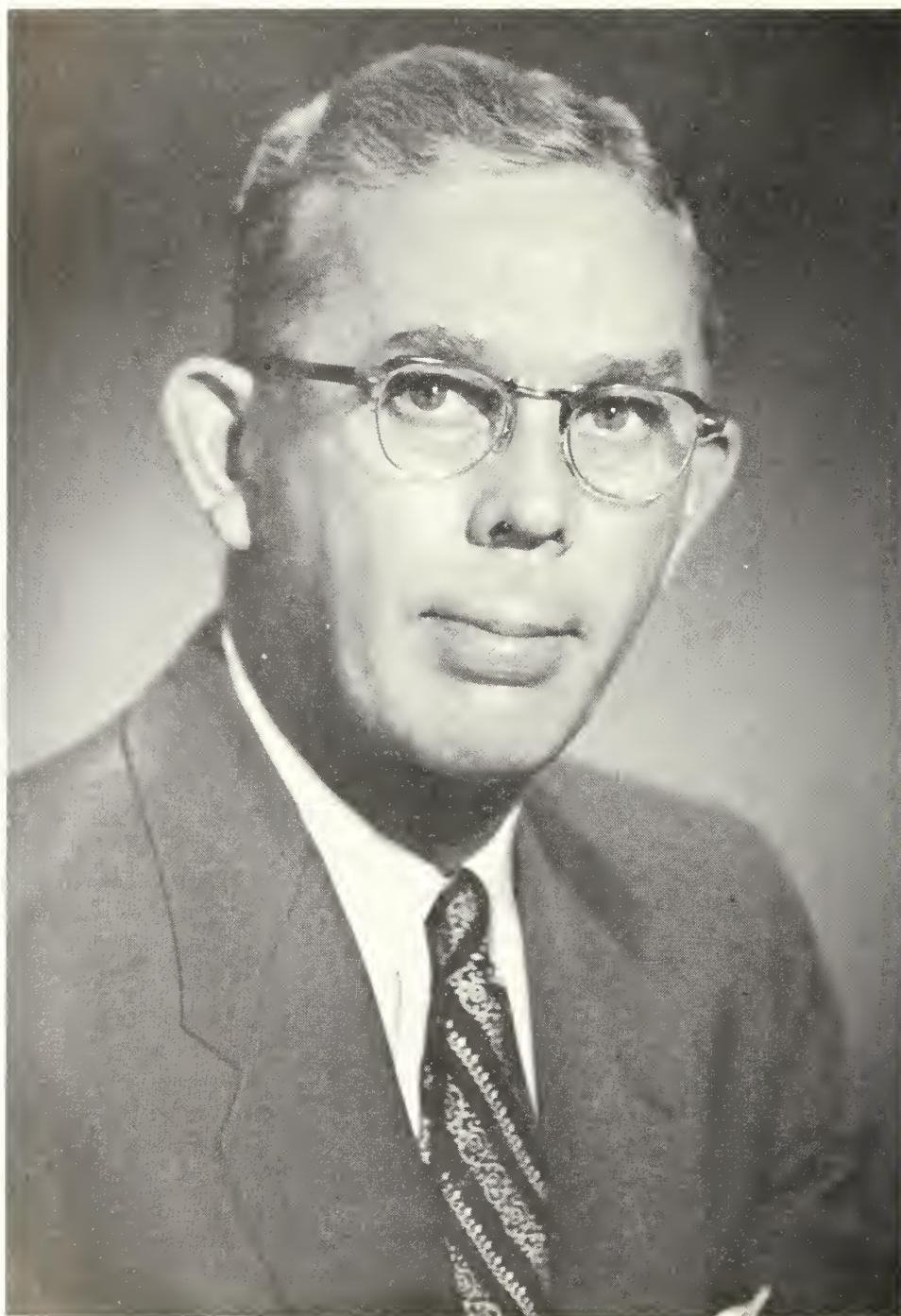
### Summary

It has been my desire to discuss some of the points we feel are the cause of a remaining high mortality rate in intestinal obstruction. Again, we feel it is due to failure of early diagnosis either on the part of the physician or the delay of the patient in consulting the physician, and the failure to apply sound therapeutic principles.

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*Our New President*



CAT.

CHARLES TRABUE, M.D.  
Nashville



## *Medicine Is a Sacred Trust, Inviolable, Inspiring, Demanding.—Dr. Trabue*

Charles Clay Trabue IV believes that the high privileges of being a doctor demand that the physician gladly accept and proudly perform his duties to his patients and profession.

In his inaugural address as President of the Tennessee State Medical Association, beginning on page 117, Dr. Trabue states part of his creed like this:

"Idealism in the practice of medicine can be a fascinating dream. Let us indulge ourselves for a few moments in such a fantasy and let us envision a doctor who is so idealistic that his every activity is motivated by a desire to bring credit to his great profession. There is nothing unrealistic about such a vision. Certainly the world is full of such selfless men. And there can be no doubt that these men have not only done more for their community, but they have done more for themselves than those who have allowed their trust to be defiled for motives of profit. In each of us there is a certain conflict, every day, between idealism and materialism—and the result of this conflict is a measure of our character."

This widely known, capable Nashville surgeon stepped up the ladder to the Presidency by solid service in his local society and state association. For the past four years he has been a fair, swift and infallible parliamentarian as Speaker of the House of Delegates. His superb dispatch of business has made it a pleasure for the delegates to attend the House Sessions. The attendance record proves this statement, even on Easter Sunday.

Other responsibilities given to Dr. Trabue, and executed faithfully and well, include: one originator of the widely copied Public Service Program, four-year Trustee of TSMA, immediate Past President and former Director of the Nashville Academy of Medicine.

Returning responsibility for privilege in hospital work, Dr. Trabue has been Chief of Staff of Mid-State Baptist Hospital (six years). He is now Attending Surgeon at Thayer VA Hospital and active staffer at Vanderbilt, Nashville General, and St. Thomas. He was a member of the Board of Commissioners of the Nashville General Hospital.

Doctor Trabue feels deeply that physicians should share their knowledge and experience with medical students, interns and residents. He said so emphatically in his inaugural address as President of the Nashville Academy, printed in full in an issue of this JOURNAL. He is Assistant Professor in Clinical Surgery at Vanderbilt University School of Medicine and a man sought out by interns and residents eager for knowledge and advice.

Medical society memberships of the New President include Diplomate of the American Board of Surgery, Fellow of the American College of Surgeons, Southeastern Surgical Congress, and member of the Southern Surgical Association, and American Medical Association.

A facile writer as well as an excellent speaker, Dr. Trabue is a frequent contributor to significant surgical literature.

A Nashville native, Dr. Trabue is the great-grandson of Charles C. Trabue who was Mayor of Nashville in 1839. Doctor Trabue was born 48 years ago to William D. and Lucinda O'Bryan Trabue. After pre-medical education at Davidson College, with a B.A. degree, he graduated from Vanderbilt School of Medicine in 1932, and interned on the Surgical Service in Vanderbilt Hospital.

Doctor Trabue served his country almost four years in World War II. Thirty months of this was overseas in Africa and Italy with The Vanderbilt Unit. He held the rank of Lieutenant Colonel.

Doctor Trabue carries his responsibilities into his public life. He was a member of the Community Services Commission. He is a Deacon of Westminster Presbyterian Church and a member of Richland Country Club. In college he belonged to Beta Theta Pi Social Fraternity, Alpha Kappa Kappa Medical Fraternity and Alpha Omega Alpha honorary scholastic medical fraternity. His hobbies are golfing and fishing. He's a big crappie champ.

Mrs. Trabue, Nettie to her friends, is also active in their community. She has served for many years on the board of Family and Children's Service. She has been active in the work of the Women of Westminster Presbyterian Church. Mrs. Trabue is a member of the Executive Committee of the Council of Community Agencies. In 1953, she was Chairman of the Woman's Division of the Community Chest Campaign. She is currently President of Town and Country Garden Club. Mrs. Trabue is active in the affairs of the Nashville Symphony Guild. She is a member of Centennial Club and the Nashville Woman's Golf Association. She has served during the past year as Publicity Chairman of the Davidson County Medical Auxiliary and as Corresponding Secretary of the Auxiliary to the T.S.M.A.

The apple of Dr. Trabue's eye is his pretty daughter, Julie, who is sixteen and a student at Gulf Park.

The confreres, patients and friends who know him well will not be surprised to find this conviction in Dr. Trabue's inaugural address:

"This trust—to my mind—is just as sacred as that held by a Doctor of Divinity."

ED BRIDGES

## President's Letter



DR. THOMPSON

And now we come to the end of the year. What must we write about in this last page to the membership? Surely we must give an account of our stewardship, we must discuss the things that have happened and the things which, in our opinion, could be improved. It is with a distinct feeling of relief that I come to this last visit with you. We have constantly feared we would be like the fools and rush in where angels fear to tread. Yet a feeling of sadness weighs heavily on us because we must lay down our baton. There is so much that needs doing and so much that has been left undone.

Progress has been made, there is no doubt. For each progressive step we are thankful. We can only wonder at the confusion and chaos that would have resulted without the excellent and intelligent help of the staff in the Central Office. We believe without a doubt the executive management of this Association is second to none and superior to any we know of. Their loyalty and enthusiastic support has done much to further the cause of medicine in Tennessee.

And what could have been accomplished without the committee effort of this Society? The almost one hundred members who give of their time in this labor of love for organized medicine was the means of progress superior to any similar period in the history of this Association. Some type of committee action is constantly taking place. We cannot thank too greatly these members who give of their time so generously. The wide contact of the members of the various committees extends far beyond the confines of our membership and this acts as good public service.

Many changes need to be made in our government of the Association. It sounds strange but as President we had the responsibility without the authority to cast our

vote on matters of policy. Now, after we have served and have turned over the responsibility of the presidency, we have achieved the right to vote on matters of policy. This we believe to be wrong. If the responsibility is placed in an office, then the power to conduct that office should be present.

Our Public Service Program must be continued and the house cleaning we have undertaken must be pushed more vigorously. We cannot afford the luxury of whitewashing our colleagues if they err, and physicians know better than anyone else when another physician commits a wrong.

Some definite and constructive action on our postgraduate program must be taken. This is necessary if for no other reason than to continue it as at present can lead to but one road—an increase in our State dues. But far more than money reasons, a change should be made so that the opportunity is present more frequently than now for a review of new ideas in all branches. Medicine is moving much faster than ever before. A review of a given subject every ten to fifteen years is not enough.

We must continue and broaden our relationship with other groups just as we have with labor, the bar association, the UMWA, the veteran groups, and others in the past. Much can be learned from each other in such meetings and it is difficult not to get along with the other fellow when you know him. You have but to treat him as you would have him treat you to achieve complete harmony.

Many other items probably should be discussed but I have come to the end of my last page—the last page of a most momentous year in my life. I shall never regret the time consumed in the pleasure of serving as your President. I pledge my loyal support to the Association in the years to come, and especially do I pledge to our worthy successor, Dr. Charles Trabue, our complete cooperation.

A handwritten signature in dark ink, appearing to read "John Thompson", written in a cursive style.



# THE JOURNAL

OF THE  
TENNESSEE STATE MEDICAL ASSOCIATION

Published Monthly  
Devoted to the Interests of the Medical Profession of  
Tennessee

Office of Publication, 321-325 Doctors Building, Nashville,  
Tenn.

Acceptance for mailing at special rate of postage provided  
for in Section 1103, Act of October 3, 1917,  
authorized July 15, 1932.

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Address Public Service problems to Ed Bridges.

R. H. KAMPMEIER, M.D., Editor and Secretary  
Vanderbilt University Hospital, Nashville

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APRIL, 1955

## EDITORIAL

### LABILITY IN BLOOD PRESSURE AS RELATED TO PROGNOSIS

Over the years most of us have had doubts at times as to the interpretation of elevated levels of blood pressure in certain of our patients. We have noted wide fluctuations at times in blood pressure as we have recorded it over a period of years. We have recognized the relationship of the psychic factors to elevations at times, and have been aware of the common tendency for the pressure levels to be lower when the patient has been at bed-rest in the hospital. The drop of the blood pressure to normal levels in those having labile hypertension under the influence of sedatives (the "Sodium Amytal test") has been used for diagnostic evaluation.

At least some of us have wondered how our blood pressure determinations on an ambulant basis in clinic or office should be evaluated, or indeed if they could be evaluated, in terms of prognosis. It seems quite

certain that some of us had the feeling that patients with labile hypertension did better over the long term than those with more or less fixed levels of hypertension as determined casually in clinic or office.

A recent study by Perera\* confirms these impressions with statistical data. He studied 50 patients who had been followed from a normotensive state into hypertension and to death from a cause related to the hypertensive state. In all those selected for the study there was adequate data on "resting" and on "casual" blood pressure determination. The 50 patients were divided into two groups of 25 each showing in the one an absence of lability of the blood pressure and in the other the presence of lability. No specific treatment was used. The author defined the tension as *labile* if the "resting" levels were more than 40/20 mm. of Hg. below the average "casual" levels. The hypertension was considered to be *nonlabile* if the "resting" levels were less than 30/15 mm. below the average "casual" levels. "Casual" levels were those recorded when the blood pressure was taken in an upright position in an office or clinic by a doctor well known to the patient. Usually the patients had numerous records of determinations for a period of not less than three years and within five years of the time of death. "Resting" values were obtained on the patient in bed in the hospital and in the early morning hours.

This study showed that the "labile hypertensives" died 23 years after the onset of hypertension at the average age of 56, women predominating to 80 per cent. The "nonlabile" group was made up of men in 68 per cent of cases, and the average age at death was 44, with a lapse of 13 years between the onset of hypertension and death. It is of interest that the author found the average maximum "casual" pressure in both groups about the same. However, it is of equal interest that the "resting" level in the labile group was often within normal limits even after years of hypertension.

The hypertensive vascular disease in the two groups generally followed a different

\*Perera, G. A.: Relation of Blood Pressure Lability to Prognosis in Hypertensive Vascular Disease, *J. Chron. Dis.* 1:121, 1955.



pattern. In those having labile hypertension, coronary artery disease and cerebral vascular accidents were more frequent, only 4 of the 25 dying from causes of renal damage and uremia. In the "nonlabile" group retinopathy and renal disease were more frequent, 11 of the 25 dying in uremia.

The study thus shows that blood pressure determinations in the resting state offer prognostic help and that casual readings in the ambulant patient give little help. Labile hypertension apparently tends to produce arteriosclerotic changes, whereas a more rapid arteriosclerotic disease is characteristic of nonlabile hypertension.

Perera's study is helpful in clarifying our impressions and thoughts concerning hypertension especially in terms of prognosis.

R. H. K.



#### AGAIN THE PRACTICE OF PSYCHOLOGY

Almost two years ago your Editor made some comments on the bill which provided for the examination and licensure of psychologists. It had just been passed by the State Legislature. Though fully aware of the important role of the psychologist as an aid to the psychiatrist in the evaluation of his patients, your Editor pointed out certain dangers inherent in the Bill,—dangers to both the patient and his doctor. These dangers lie in definition and also upon the shoulders of the referring physician.

Relative to definition, the statute reads the "Psychologist must not attempt to diagnose, prescribe for, treat or advise a client with reference to problems or complaints falling outside the boundaries of psychological practice." Who can clearly define "complaints falling outside the boundaries of psychological practice"! The line between the functional, which might conceivably fall into "psychological practice," and organic disease is often of hairline thinness. The psychological treatment of a brain tumor or of general paresis would be disastrous. This danger was recognized in the legislation which read, "The Psychologist or Psychological Examiner who engages in psycho-therapy must establish and

maintain affective intercommunication with a psychologically oriented physician, usually a psychiatrist, to make provision for the diagnosis and treatment of medical problems by a physician with an unlimited license to practice healing arts in this State."

This is all well and good, but certain hazards were anticipated to accompany the legislation. It was pointed out by your Editor that the physician who might refer a patient to a psychologist might well "forget" the patient, either through pressure of work or lack of time, or in a subconscious or conscious desire to be rid of a troublesome psychoneurotic. Leaving aside the need for medical attention for the psychiatric disturbance, psychoneurotic patients are not immune to neoplastic and other diseases which the psychologist obviously would miss having no background in pathology or clinical medicine. The conscientious psychologist undoubtedly calls upon the referring physician for help frequently. It is the combination of the unscrupulous or over enthusiastic psychologist and the indifferent physician which is dangerous. The availability of a practicing psychologist gives the lazy doctor a chance to "pass the buck." (This has no reference to the close liaison between the psychologist as an aid to the psychiatrist.)

If items which have come to the attention of your Editor are correct, his fears have been borne out. It is said that since this legislation practicing psychologists have practiced "on their own" without "effective intercommunication with a psychologically oriented physician." It is said that physicians not actively engaged in practice have acted as "a front" for practicing psychologists to remain within legal bounds.

Now, on a nation-wide basis, the American Psychiatric Association, the American Psychoanalytic Association and the A.M.A. are recognizing the problem. In many states anyone can advertise himself as a "psychologist." The American Psychiatric Association has approved certification laws to at least control who calls himself a Psychologist. Maine, Minnesota, Connecticut and Virginia have such laws. In the A.P.A. report (December, 1954) on this subject, it comments on licensure,—“Though existing

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Editorial: The Doctor and the Practice of Psychology, J. Tenn. M. A. 46:298, 1953.

(Georgia, Kentucky, Tennessee) and proposed licensure laws provide there shall be no invasion of medical practice, the definitions of psychological practice are so general and vague that effective administration would be impossible."

Organized medicine here and there in the Country is opposing both certification and licensure laws.

The American Psychiatric Association has joined with the American Psychological Association to study the problem and both have agreed to a five-year moratorium on legislation. The two most interested groups hope with aid from the A.M.A. to finally establish what is proper in the practice of psychology and what type of legislation is acceptable for the best welfare of patients.

R. H. K.

## DEATHS

**Dr. Frank B. Dunklin**, 65, Lebanon, died March 6th at his home. Dr. Dunklin had been in ill health for a number of months.

**Dr. B. M. Davis**, 89, New Tazewell, died at his home on March 6th. Dr. Davis was the first graduate physician to practice medicine in Claiborne County.

**Dr. Edward Talmadge West**, Johnson City, died unexpectedly at his home on March 2nd. He was a Trustee of Washington College.

**Dr. Rufus Stennis Brown**, 77, Jackson, died February 13th in a Jackson Hospital.

**Dr. J. H. Dorgan**, Elbridge, died February 28th in a Dyersburg Hospital.

**Dr. William Lyeurgus Boyett**, 86, Whiteville, died February 4th at his home.

**Dr. Joseph A. Hardin**, 83, Sweetwater, died at his home on February 18th. He had been in failing health for several years.

**Dr. Oswald T. Avery**, 77, Nashville, died February 21st in Vanderbilt Hospital. He had been ill for five months. Dr. Avery was an internationally known bacteriologist.

## PROGRAMS AND NEWS OF MEDICAL SOCIETIES

### Roane County Medical Society

The Society held its dinner followed by the scientific meeting on February 22nd in the Oak Ridge Hospital. Dr. J. Ed Campbell was the speaker at the scientific pro-

gram and his subject was "Office Management of Ocular Diseases and Injuries."

### Nashville Academy of Medicine and Davidson County Medical Society

The Society held its regular dinner meeting on the evening of March 8th at Veterans Administration Hospital. Committee reports were given by the Chairman of the Medical Assembly Committee and the Chairman of the Committee on Postgraduate Education. The scientific program was presented by the V. A. Hospital staff as follows: Dr. George Meneely, "Pulmonary Function Testing"; Dr. Merrill W. Schell, "Diaphragmatic Hernia"; Dr. Abram C. Scmerling, "Lower Nephron Nephrosis."

### Robertson County Medical Society

The Society met for dinner on the evening of March 21. An announcement was made by the County Health Officer relative to polio vaccinations for first and second grade school children. Dr. Lynwood Harrington, Nashville, gave a paper on "Duodenal and Peptic Ulcers," and Dr. John Tudor, Nashville, spoke on "Tumors of the Kidney."

### Knoxville Academy of Medicine

The Society conducted its regular meeting on the evening of March 8th. Dr. Ernest L. Wynder of Memorial Hospital, New York, spoke on the "Clinical and Experimental Approach to the Tobacco Lung Cancer Problem."

### Consolidated Medical Assembly

The Society conducted its monthly meeting on March 1. Speakers presenting the scientific program were Dr. Harwell Wilson of Memphis whose paper was entitled "Surgical Treatment of Arterial Diseases and Injuries"; discussion was led by Dr. Hughes Chandler of Jackson; Dr. Frank Tullis, Memphis, gave a paper entitled "Medical Management of Cardiac Emergencies." His paper was discussed by Dr. Lamb Myhr, of Jackson.

### Chattanooga-Hamilton County Medical Society

The Society's March 17th meeting con-



sisted of a heart symposium under the direction and auspices of the Chattanooga Area Heart Association. The afternoon and evening sessions were followed by a banquet at the Chattanooga Golf and Country Club.

### Memphis-Shelby County Medical Society

The Society's monthly meeting was held on March 1st at the Naval Hospital at Millington. Case reports were given by Captain Ronald B. Fankboner on "True Hermaphroditism." Lieutenant Richard Foulk gave a paper on "Histoplasmosis," and Captain E. P. McLarney one on "Renal Insufficiency Treated with Artificial Kidney."

### Hamblen County Medical Society

The Society's meeting on March 8 consisted of a paper by Dr. C. B. Landham of Chattanooga who reviewed the extent of special education in Tennessee compared with the program throughout the nation. Dr. Landham also discussed the bill passed in the legislature which provides \$230,000 to county and city boards of education for the training of mentally retarded children.

### Coffee County Medical Society

Dr. C. B. Landham, Chattanooga, was the guest speaker for the first open meeting of the Society held on February 8th. Dr. Landham's subject was "Facing Mental Retardation as Physicians, Educators, Clergymen and Parents."

## NATIONAL NEWS

### Report of the Hoover Commission on Federal Medical Services

The Hoover Commission on Federal Medical Activities has submitted its report to Congress. The report said *too many people are getting medical care at federal expense*, and that there is some "gold-bricking by patients."

Ten of the Commission's 29 recommendations deal with care of veterans. The report states that there are more veterans hospitals than are necessary and urges that those found to be surplus be closed immediately, and that construction funds be rescinded except for those actually underway or under contract. The Commission recommended that safeguards be established to enforce a rule

that Veterans Administration free medical care should be given for non-service connected ailments only when a veteran is unable to pay. Other recommendations included: (a) abolishing federally financed medical care for American merchant seamen at a saving of 12 million dollars a year; (2) closing of 12 public health service hospitals, some of which now serve merchant seamen, at a saving in operating costs of 19 millions a year; (c) creating a Federal Advisory Council of Health, to be named by the President, as a permanent agency to coordinate federal medical programs; and (d) pooling hospital facilities of the three military services on a regional basis. The Hoover Commission urged the setting up of a voluntary health insurance program for the 2.3 million federal employees, with joint contributions by the government and employees, through pay roll deductions, to private insurance agencies. The commission would establish a central federal authority to supervise medical care in case of atomic attack and recommended setting up a national library of medicine which would incorporate the present armed services medical library.

The Commission's report found that 66 federal units are now responsible for health and medical functions involving possible direct medical care for 30 million Americans, including 21 million veterans, at an annual cost of 4 billion 149 million dollars.

It is significant that the Commission believes military dependents' care should be furnished exclusively by private practitioners and in non-governmental facilities. This is contrary to the Administration's position that care of dependents should be given under military auspices whenever practicable.

### What It Costs People to Be Sick

The December 24 issue of U. S. News and World Report carried an interesting and informative article on "What It Costs People to Be Sick." Quoting figures "based on the latest study of the Social Security Administration brought current thorough estimates by the Economic Unit of U. S. News and World Report," this special article points out some favorable information on doctors' fees. The story said: "Government experts attribute most of the rise in hospital expense to higher charges resulting from better pay scales for hospital workers and the higher cost of food. Dentists and physicians, on the other hand, are getting a somewhat smaller share of the nation's private medical outlays. This finding runs counter to criticism of physicians' fees. Physicians' fees used to account for 30 per cent of the out-of-pocket cost; now they are 29 per cent. Dental bills are less than 10 per cent today, compared with more than 12 per cent in 1948. These fees tend to stay fairly constant for periods of years. The last big jump came during World War II. Today many physicians are charging the same for office calls and sickroom visits as they did shortly after the war."



The report said that medical care is costing people a total of 12.4 billion dollars a year, of which 2.1 billion is met through health insurance.

## MEDICAL NEWS IN TENNESSEE

### Nashville Surgical Society

The Nashville Surgical Society met on March 11. The speaker was Dr. Mark Ravitch, Director of Surgery at Mt. Sinai Hospital, New York City, and his subject was "The Surgical Treatment of Ulcerative Colitis."

### Medico-Legal Clinic

One hundred fifty doctors and lawyers discussed their mutual problem at a Medico-legal Clinic in Nashville on March 9th at the Andrew Jackson Hotel. Sponsored by the Tennessee State Medical Association and jointly conducted by the Nashville Academy of Medicine and the Nashville Bar Association, the program featured talks by members of the medical profession and the Bar Association with question and answer periods following each address. Speakers and their topics discussed were as follows: Dr. Arnold Meirowsky, neurological surgeon, and Dr. Sam Prevo, orthopedic surgeon, "Back Injuries"; Henry T. Finley, insurance firm attorney, "Medical Aspects of the Workmen's Compensation Law"; Dr. George K. Carpenter, orthopedic surgeon and chairman of the State Medical Association's liaison committee to the Tennessee Bar Association, and Lon P. MacFarland, Columbia attorney and delegate to the American Bar Association's House of Delegates, "The Medical Witness"; John J. Hooker, past president of the Tennessee Bar Association, "Legal Aspects of the Aggravation Factor in Disability"; Dr. J. Andrew Mayer, surgeon, "Traumatic Neurosis and the Malingerer."

### Infectious Hepatitis Total Runs High

The number of cases of hepatitis reported in Tennessee reached an all-time high last year, the State Health Department says.

In its annual provisional morbidity report, the department said that 1,216 cases were recorded in 1954, compared to 894 the previous year and 215 in 1950.

For the second straight year, not a case of malaria originating in Tennessee was reported the report showed. Only 63 cases of diphtheria were reported last year, an all-time low. In 1953, 72 cases were recorded and in 1950 there were 259.

### West Tennessee Medical and Surgical Association

The West Tennessee Medical and Surgical Association will hold its annual meeting at the Recreation Club of the Milan Arsenal, Milan, on Thursday afternoon and evening, May 26, 1955.

The program is not yet complete, but the principal after dinner speaker will be Dr. William Darby, Professor of Biochemistry and Head of the Department of Nutrition of the Vanderbilt University School of Medicine. All physicians in the West Tennessee area are cordially invited.

### Speech and Hearing Center Approved by Legislature

An administration bill authorized by the Tennessee State Legislature for a \$1,000,000 bond issue was passed for the purpose of erecting a Hearing and Speech Center in Nashville. It is intended that the Center will serve the entire state and it is expected that construction of the facility will be completed within 120 days after building starts. The three principal purposes of the center will be: (1) to train teachers who will be able to instruct handicapped children of grammar school age; (2) to train rehabilitation workers; (3) research in the hearing and speech fields. The Center will afford scholarships to Tennesseans interested in the hearing and speech field. It will also put to use funds that the state has already allocated for the training of 325 such teachers. It is stated that the research aspects of the Center will cover a wide area.

It has been estimated that 4.28 per cent of Tennessee's grammar school students have major hearing or speech defects.

### University of Tennessee College of Medicine

Dr. Donald B. Zilversmit, of the Department of Physiology, has been awarded research grants totaling \$7,842, to study the

utilization of normal blood fats and the use of artificial fat emulsions given intravenously.



The American Cancer Society has awarded a clinical fellowship to the College of Medicine to help train more specialists for diagnosis and treatment of cancer. The recipient of the fellowship for 1955-56 is Dr. Sidney Coleman, of the Department of Pathology and Microbiology, who also received the award in 1954-55.



A portrait of Dr. T. P. Nash, Jr., dean of the School of Biological Sciences at the school, will be presented to the University. The portrait will be hung in the new Chemistry-Physiology Building.

#### Vanderbilt University School of Medicine

A symposium on Some Inorganic Elements in Human Nutrition was held on April 4. This was sponsored by the Nashville Academy of Medicine, the School of Medicine and the Council on Foods and Nutrition of the A.M.A.

The program consisted of the following:—

- 1) Iodine Metabolism in Endemic Goiter, by Dr. Edwin B. Astwood, Tufts College Medical School, Boston, discussed by Dr. B. T. Towery of Nashville.
- 2) Metabolic Functions of Zinc, by Dr. B. L. Vallee, Peter Bent Brigham Hospital, Boston, discussed by Dr. C. A. Elvehjem of the University of Wisconsin.
- 3) Iron Metabolism and Requirements of the Human, by Dr. Carl V. Moore, Washington University, St. Louis, discussed by Dr. William J. Darby of Nashville.
- 4) Copper Metabolism in the Human, by Dr. Clark J. Gubler, University of Utah, Salt Lake City, discussed by Dr. James Baxter, National Institutes of Health, Bethesda, Maryland.
- 5) Magnesium Deficiency Syndrome in Man, by Dr. Edmund B. Flink, Veteran's Hospital, Minneapolis, Minnesota, discussed by Dr. L. A. Maynard, Cornell University, Ithaca, N. Y.
- 6) Potassium Deficiency in the Infant, by Dr. Daniel C. Darrow, Children's Mercy Hospital, Kansas City, Mo., dis-

cussed by Dr. Calvin W. Woodruff of Nashville.

#### Tennessee State Orthopaedic Society

The Seventh Annual Meeting was held at the University of Tennessee College of Medicine, Memphis, on March 13. Fifty members attended to hear eleven papers. The officers, all of Memphis, are: Doctors Marcus J. Stewart, president; Wendell L. Whittemore, vice-president; and R. Beverly Ray, secretary.

#### Tennessee Heart Association

A Regional Meeting of the American Heart Association for the Southern States was held in Nashville on March 30-31. Participating affiliates included representatives from Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Virginia and Tennessee.

## PERSONAL NEWS

**Dr. George L. Sivils**, Chattanooga, has resumed his practice of internal medicine in the Professional Building. He has been in the U. S. Air Force.

**Dr. William K. Swann**, Knoxville, was a speaker before the Southeastern Surgical Congress Assembly in Atlanta.

**Dr. James H. Caldwell**, Chattanooga, has opened a clinic on Lookout Mountain.

**Dr. Sterling A. Batte** has joined **Dr. Robert Moore** in the practice of medicine at the Gallatin Community Hospital.

**Dr. H. L. Monroe**, Erwin, spoke on "Socialized Medicine" at a recent Health Forum.

**Dr. J. L. Armstrong**, Somerville, appeared on a Memphis television program entitled "Your Future Unlimited."

**Dr. R. C. Kash**, Lebanon, has been elected a director of the Nashville Community Concerts Association.

**Dr. T. P. Nash, Jr.**, Memphis, recently talked at a science meeting at the Carson-Newman College in Maryville.

**Dr. David Turner** has been elected Marion County physician.

**Dr. Travis Morgan**, Memphis, has joined the staff at Gordon Clinic.

**Dr. L. C. Benson**, Gatlinburg, has opened the Smoky Mountain Clinic.

**Dr. J. W. Danley** was recently honored by staff members of Lawrence County Hospital for his 50 years in the practice of medicine.

**Dr. Thomas A. Clark** has opened his office for the practice of medicine in Sparta.



**Dr. Howard A. Farrar**, Manchester, has been elected chief of staff of the Coffee County Hospital.

**Dr. O. M. Derryberry**, **Dr. David McCallie**, **Dr. Phil Livingston**, **Dr. Foster Hampton** and **Dr. Carl Hartung**, all of Chattanooga, composed a panel of physicians discussing heart diseases at the Kiwanis Club.

**Dr. Gerald E. Johnson** has opened his office for the practice of medicine at Winchester.

**Dr. William Moffatt**, Memphis, has been named Memphis-Shelby County Chairman of Crusade for Freedom.

**Dr. E. P. Muncy**, Jefferson City, has been the principal speaker on heart disease at a number of community clubs in his area.

**Dr. John E. Neumann**, Paris, has received his certification from the American Board of Industrial Medicine.

**Dr. Charles V. Dowling**, Memphis, recently spoke to the Rotary Club at Bolivar.

**Dr. Charles A. Trahern**, Clarksville, recently addressed the Christian Men's Fellowship.

**Dr. Ernest G. Kelly**, Memphis, has been chosen chief of the medical staff at Baptist Hospital in Memphis.

**Drs. C. B. LeQuire**, **Julian Lentz**, **W. C. Crowder**, **J. N. Proffitt**, **John A. Yarbrough** and **Roy W. Laughmiller, Jr.**, are constructing a new doctors office building in Maryville.

**Dr. J. E. Acker, Jr.**, Knoxville, Chief of the Heart Clinic at General Hospital, has announced that **Dr. John W. Avera** will be the director of a new laboratory at the hospital.

**Dr. Charles Elliott Reeves**, Gainesboro, was the subject of recent feature news story concerning his 66 years in the practice of medicine.

**Dr. William B. Robinson**, Newport, is the new president of the Cocke County Medical Society.

**Dr. Lealand Johnston**, Jackson, recently addressed workers in the Heart Fund Drive in West Tennessee.

**Dr. Hollis E. Johnson**, Nashville, was the featured speaker on a cancer forum recently at Martin.

**Dr. Marion L. Smith** announces his association with Doctors H. T. Moore, Jr., J. A. Jarrell, Jr., and P. H. Bandy of Nashville, in the practice of anesthesiology.

volume would seem to be of especial interest to pharmacists, but also to physicians who wish to know what they are using which sometimes is difficult to know on the basis of trade names only.

R. H. K.



**Connective Tissues. Transactions of the Fifth Conference, February 8, 9, and 10, 1954, Princeton, New Jersey. Edited by Charles Ragan M.D., 222 pages, illustrated. Packanack Lake, New Jersey: Josiah Macy, Jr., Foundation Publications, 1954. Price \$4.25.**

The Transactions of the Fifth Conference represent the discussions of an interesting gathering of investigators having especial interests in the mesenchymal tissues. The highly specialized methods and tools of research in several disciplines make such conferences interesting and stimulating. Seventeen scientists took part in this fifth conference.

The various investigators represent interests and researches in the fields of physiology, bacteriology, chemistry, clinical studies of disease, endocrinology and rheumatology.

The first discussion was on Exchange of Materials Between Blood Vessels and Lymph Components. This exchange is on the basis of physicochemical changes. The structure of capillary walls, intercellular space and intercellular cement are important here. Enzymatic and chemical factors useful for the study of permeability are employed in the study of this subject.

Another discussion covered Interstitial Water and Connective Tissues. The comments and questions dealt with the extra-cellular component and methods of influencing the fluid entering or leaving it.

The third session dealt with Hormonal Effects on Connective Tissues. This involved a discussion of cortisone as having an inhibiting action on hyaluronidase in the dermis. Also it effects changes in the mast cells and this change is related to the inhibitory effect of cortisone and hydrocortisone on new formation of connective tissue.

R. H. K.

## BOOK REVIEW

**The Manual of Antibiotics. Edited by Henry Welch, Ph.D., New York. Medical Encyclopedia, Inc. Distributed by the American Pharmaceutical Association, Washington, D. C. Price \$2.50.**

This small volume offers a very convenient listing of the antibiotics in terms of trade names, generic names and the manufacturers of the preparations. The indications are listed also. This

## ANNOUNCEMENTS

### American College of Chest Physicians

The 21st Annual Meeting of the American College of Chest Physicians will be held in the Ambassador Hotel, Atlantic City, N. J., June 1 through 5, 1955. All interested physicians are cordially invited to attend the 21st Annual Meeting of the College, there being no registration fee. For copies of the program and more information write the American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.



### American Board of Obstetrics and Gynecology

The next scheduled Examinations (Part II) oral and clinical for all candidates will be conducted at the Edgewater Beach Hotel, Chicago, Ill., from May 11 through May 20, 1955. Formal notice of the exact time of each candidate's examination will be sent him in advance of the examination dates.

Candidates who participated in the Part I examinations will be notified of their eligibility for the Part II examinations as soon as possible.

### American Proctologic Society

The 54th Annual Meeting of the American Proctologic Society will be held at the Hotel Statler, New York City, from June 1-4, 1955. Feature lectures will be conducted on the basic sciences. These lectures were originally designed for the younger members of the society, but have become so outstanding that increasingly they have become a feature of the meeting; a continuing course in postgraduate education for all physicians.

### Southern Pediatric Seminar

Pediatrics, Internal Medicine, Obstetrics, and Gynecology will feature the 35th annual session of the Southern Pediatric Seminar, Saluda, N. C. The course will be divided into three one-week

sessions and those who wish to attend may come for one, two or three weeks. The first week (July 11-16) and the second week (July 18-23) will be devoted to pediatrics and internal medicine. The third week (July 25-30) will be given over to obstetrics and gynecology.

The faculty of the Seminar consists of men from all over the South who are leaders in their respective fields. About half of them are members of medical school faculties and the other half are men in private practice. In this way there is a well balanced program of the theoretical, the scientific, and the practical.

The Seminar is for the general practitioner, and is fully accredited by the American Academy of General Practice for postgraduate instruction. Those desiring further information should write to Dr. D. L. Smith, Registrar, 187 Oakland Avenue, Spartanburg, S. C.

### Regional Meeting of the American College of Gastroenterology

A regional meeting will be held in Memphis on Sunday afternoon, April 24, at 2 p.m. Dr. Lynn A. Ferguson of Grand Rapids, Michigan, President of the American College of Gastroenterology, will preside. Members of the medical profession are cordially invited to attend. A copy of the program may be obtained from Dr. John E. Cox, 1118 Madison Avenue, Memphis 4, Tennessee.

(Continued from center spread)

ping majorettes, Margaret Rawls and Jean Ragsdale, from the headquarter's office. I wish to personally express my appreciation for what they have done.

In conclusion, special tribute should be paid to five members of Tennessee State Medical Association. Four of them were members of the 1955 General Assembly, and the fifth has been named. Without these men, the legislative campaign could not have gone nearly so far as it did. I want them to come forward for a recognition. They are Dr. T. R. Ray and Dr. John H. Gammon, members of the State Senate, Dr. James O. Walker and Dr. L. S. Nease, members of the House of Representatives, and Dr. R. H. Hutcheson, State Commissioner of Public Health. In closing this report, I move that we give these gentlemen a rising vote of thanks.

# Journal of the Tennessee State Medical Association

OWNED AND PUBLISHED BY THE ASSOCIATION

Volume 48

MAY, 1955

Number 5

## Abstract of the Proceedings of the House of Delegates of the Tennessee State Medical Association Chattanooga, April 10-12, 1955

### FIRST SESSION, SUNDAY, APRIL 10

The House of Delegates was called to order by Speaker Robert N. Buchanan, Jr., at 9:30 a.m. in the Chestnut Room of the Read House Hotel, Chattanooga. The invocation was rendered by the Rev. Battle McLester, Rector of Grace Episcopal Church, Chattanooga. Prayer of Dr. McLester: "Almighty God, order of all things both in Heaven and earth Whose laws are perfect, Whose judgments are true and righteous altogether, we pray that Thou will help us that we may order our lives, to live in harmony with Thy plan and purpose. Help us that in all things Thy will may be done by us. Direct us, O Lord, this day and always by Thy most gracious favor. Further us with Thy continual help. Jesus Christ, our Lord, liveth and reigneth with the Father and Holy Ghost, one God, world without end, and may the blessing of God Almighty, the Father, Son and the Holy Ghost, be amongst you and remain with you always. Amen."

Dr. William A. Garrott, Cleveland, Chairman of the Credentials Committee, reported a quorum present and that all delegates registered were qualified delegates or the alternate delegate was properly qualified.

The minutes of the previous session were approved as published in the May, 1954, issue of the JOURNAL.

Speaker Buchanan then announced the personnel of the various reference committees previously appointed as follows:

#### Credentials

William A. Garrott, M.D., Chairman  
W. A. Hensley, M.D.  
Julian K. Welch, M.D.

### Amendments to the Constitution and By-Laws

S. Fred Strain, M.D., Chairman  
John B. Youmans, M.D.  
Dana W. Nance, M.D.

#### Resolutions

H. T. Kirby-Smith, M.D., Chairman  
G. H. Berryhill, M.D.  
Cecil E. Newell, M.D.

#### Reports of Officers

Daniel R. Thomas, M.D., Chairman  
O. Reed Hill, M.D.  
Sam L. Raines, M.D.

#### Reports of Committees

James A. Kirtley, Jr., M.D., Chairman  
B. M. Overholt, M.D.  
Henry B. Gotten, M.D.

#### Outstanding G. P. Award

E. G. Kelly, M.D., Chairman  
Daugh W. Smith, M.D.  
A. M. Patterson, M.D.

In the absence of Dr. O. Reed Hill on the Reference committee of Reports of Officers, the Speaker requested that Dr. J. B. Black of Murfreesboro serve in his place. Dr. Black agreed and it was so ordered.

#### Amendments on the Table

The next order of business was consideration of two constitutional amendments which had remained on the table since the last annual session. Also lying on the table from last year's meeting was an amendment to the By-Laws. The amendments to the constitution were read by the Speaker as follows:

"It is proposed to amend Article V of the Constitution by changing the period at the

end of Article V to a semicolon and add thereafter the following language; so that Article V will read: 'The House of Delegates shall be the legislative and business body of the Association, and shall consist of (1) delegates elected by the component societies; (2) ex-officio the officers; (3) the ex-presidents of the Association in attendance at that session; (4) the Association's delegates to the American Medical Association, and the Commissioner of Public Health for the State of Tennessee, provided said Commissioner of Public Health is a member in good standing of the TSMA.'

The Speaker called for discussion, and since there was none, the question was called for and the amendment was duly put to a vote, and adopted. The Speaker announced that the motion was carried by more than two-thirds majority and that **the amendment was adopted** and was now a part of the Constitution of this Association.

The second constitutional amendment related to Article VIII, Section 5. It is proposed to change the word "Wednesday" to "Tuesday" so that Article VIII, Section 5, will read: "All officers of the Association, except the Councilors, shall be elected on Tuesday of the Annual Meeting and shall assume office when elected."

The Speaker called for discussion, and since there was none, the question was called for and the amendment was duly put to a vote and carried. The Speaker announced that the vote was carried by more than a two-thirds majority and that **the amendment was adopted**.

The third amendment related to Chapter XII, Section 7, of the By-Laws. It was proposed to add the words "but shall not hold membership in more than one society," thus making Chapter XII, Section 7, read as follows: "Section 7. When a member in good standing in a component society moves to another county in the state, his name, upon request, and with the consent of his component society, shall be transferred, without cost, to the roster of the component society in whose jurisdiction he moves, but he shall not hold membership in more than one component society."

The Speaker called for discussion, and Dr. Ogle Jones of Centerville discussed the

proposed amendment pointing out that if the amendment was adopted, it would seriously affect members of small county societies where very little scientific material was presented. Dr. Jones stated that he knew of a number of instances where small county society members also belong to larger county societies where they could take advantage of the excellent scientific programs.

This amendment to the By-Laws was also discussed by Dr. D. C. Seward of Nashville.

Following the discussion, the Speaker called for the Amendment and it was duly put to a vote and carried. The Speaker announced that the motion was carried by the necessary majority and that **the amendment was adopted**.

#### Introduction of Amendments

The next order of business was the introduction of amendments to the Constitution and By-Laws. There were no amendments to the Constitution introduced. Dr. H. L. Monroe of Erwin introduced a proposed amendment to Chapter II Section 1 of the By-Laws. It was read and referred without discussion to the Reference Committee on Amendments to the Constitution and By-Laws. (All amendments whether adopted or rejected will be quoted in full in subsequent sections of this abstract, which embodies the recommendation of the reference committee and the action taken upon the various amendments.)

Dr. Monroe also introduced an amendment to Chapter II, Section 1, Paragraph 2 of the By-Laws and this amendment also was referred to the Reference Committee on Amendments.

All of the above amendments had to do with the date of the beginning of the Annual session and the matter of the House of Delegates beginning its sessions on Sunday. There being no further amendments to the Constitution and By-Laws at this time, the Speaker moved to the next order of published business.

#### Introduction of Resolutions

The Speaker then stated that the next order of business was the introduction of resolutions. Delegates should not discuss



nor debate the resolutions at the time of introduction, but should simply read them in order that the Chair could get the resolutions before the proper reference committees. The Speaker suggested that all of those interested in resolutions that were introduced should appear before the Reference Committee on Resolutions and express their feelings about them. It was stated that full opportunity would be given for debate and discussion when the resolutions are reported out by the Reference Committee on Resolutions on Tuesday April 12.

Dr. Julian K. Welch, Brownsville, introduced a resolution relative to the Postgraduate Education Program. The resolution called for a special committee to make a study of the present Postgraduate Course of instruction and that the study should include the possibility of discontinuing the office in Memphis and consolidating the work of the Memphis office with the Headquarters office of the TSMA in Nashville. The resolution also suggested the possibility of completely revising the type of program now in effect. The resolution was referred to the reference committee on resolutions.

Dr. John D. Hughes of Memphis introduced a resolution pointing out the strong opposition of the Memphis and Shelby County Medical Society to any state medical meeting being scheduled for the morning of Easter Sunday and the resolution requested this be brought to the attention of the House of Delegates of the TSMA. The resolution was more a matter of complaint and record, therefore the resolution was referred to the reference committee on resolutions.

Dr. Ralph O. Rychener of Memphis introduced a resolution memorializing the House of Delegates of the Tennessee State Medical Association and requesting that body call to the attention of the Licensing Board for the Healing Arts the practices in violation among druggists by over-the-counter prescribing and sale of such drugs as becoming common by optometrists who use anesthetic eye-drops and ointments in fitting contact lenses and who give advice to general practitioners and even order eye-drops in cases of conjunctivitis. The resolution was referred to the Reference Committee on Resolutions.

Dr. Ralph O. Rychener of Memphis introduced a resolution for the House of Delegates of the TSMA to instruct its delegates to the American Medical Association at the 1955 meeting which would make it unethical for any doctor of medicine to teach in or be associated with any school or college of optometry, except that it should not apply to heads of departments of ophthalmology of professional rank in state universities who have as part of their duties some advisory capacity in schools of optometry which are an intricate part of those universities. The resolution was referred to the reference committee on resolutions.

Dr. W. G. Kennon, Jr. of Nashville introduced a resolution outlining the activities and purposes of the World Medical Association and urged that every member of the TSMA join the World Medical Association. The resolution pointed out that the World Medical Association was in no way officially connected with the United Nations. The resolution was referred to the Committee on resolutions.

Dr. Frank Whitacre of Nashville introduced a resolution pointing out the many advantages and accomplishments of the present circuit type program of medical Postgraduate Instruction and urged that the House authorize the continuation of the necessary appropriation to conduct the program as is now being operated. The resolution was referred to the reference committee on resolutions.

Dr. W. E. Scribner of Kingsport presented a resolution commending Mr. Ed Bridges for the valuable assistance and guidance in the Public Health Forums held over the State during his tenure as Public Service Director. The resolution was referred to the reference committee on resolutions.

Dr. John R. Thompson, Jr., Jackson, introduced a resolution wherein the House of Delegates instruct the Board of Trustees to appoint a committee to study and revise the Constitution and By-Laws and be ready to report upon such amendments or revisions at the Annual Meeting of the House in 1956. This resolution was referred to the Committee on Resolutions.

Dr. John R. Thompson, Jr., Jackson, introduced a resolution requesting approval from the House of Delegates to instruct the

Board of Trustees to establish a president's travel expense fund of not less than \$500 nor more than \$1,000 per year. The resolution stated that the President was called upon to visit a number of component societies over the state and it was mandatory that he attend a number of conferences and meetings outside the state, therefore the reason for bringing this matter to the attention of the House. The resolution was referred to the Reference Committee on Resolutions.

Dr. William A. Garrott, Cleveland, introduced a resolution for the good of the order of the Tennessee State Medical Association, pointing out that it was the purpose of the TSMA to serve the entire profession impartially rather than the large component county societies. The resolution was referred to the reference committee on resolutions.

Dr. G. H. Berryhill of Jackson, introduced a resolution relative to ophthalmologists dispensing glasses. The resolution pointed out that the ruling of the judicial council of the American Medical Association made it unethical for ophthalmologists to provide glasses for their patients unless the service is unavailable without hardship or inconvenience to the patient. And further that it is unethical to profit from sale of such glasses. The delegates from this Association to the AMA were requested to try and get this ruling rescinded at the next session of the AMA, in order that it would be ethical for ophthalmologists to dispense glasses in their offices provided there is no profit from such procedure. This resolution was referred to the reference committee on resolutions.

The Speaker called for introduction of additional resolutions, and since there were none, he moved to the next order of business, which was the report of officers.

#### Reports of Officers

(The President's report was published in full in the April, 1955 issue of the Journal, and the report of the President-Elect was likewise published in the April, 1955 JOURNAL).

Abstracts of reports of all officers will be found on page 171 in this issue of the JOURNAL.

Dr. R. H. Kampmeier, Editor and Secretary gave his report on the status and condition of the Journal of the Tennessee State Medical Association. The report was referred to the Reference Committee on reports of officers. Dr. James C. Gardner, Nashville, Chairman of the Board of Trustees and Treasurer presented his report. The report was referred to the reference committee on reports of officers.

Dr. D. C. Seward, Nashville, Chairman of the Council read his prepared report. The report was referred to the Reference Committee on Reports of Officers.

Following the report of the Chairman of the Council he brought to the attention of the House the manner in which petitions for new Charters might be handled. It was decided by the House that those counties petitioning for new Charters would have an opportunity to present the petitions before the House later and that the matter would be passed for the present. The Speaker ordered that the published order of business be continued and called upon the Executive Secretary for his report.

Mr. J. E. Ballentine, Executive Secretary, Nashville, rendered his report dealing with the membership and status of affairs and activities of the Tennessee State Medical Association. The report was referred to the reference committee on reports of officers.

#### Reports of Committees

The following committee reports were submitted:

Scientific Work & Editorial Board—R. H. Kampmeier, Nashville

Committee on Hospitals—J. L. Hamilton, Chattanooga

Legislation & Public Policy—C. M. Hamilton, Nashville

Liaison to the Public Health Department—John B. Steele, Chattanooga, (Stated as same report of the Hospital Committee, and therefore not read)

Insurance Committee—B. F. Byrd, Sr., Nashville, (read by Executive Secretary)

Memoirs Committee—Henry L. Douglass, Nashville

Committee on Postgraduate Instruction—Frank Whitacre, Nashville, (read by Executive Secretary)

Committee on Cancer—Ralph H. Monger, Knoxville

Committee on Emergency Medical Service—Frank Moore, Jackson, (read by Executive Secretary)

Committee on Industrial Health—No Report

Prepaid Insurance Committee—N. S. Shofner, Nashville

Public Service Committee—L. W. Edwards, Nashville, (read by Mr. Ed L. Bridges)

Following the reading of the Public Service Committee report, Dr. Charles C. Trabue, Nashville, arose to state that a portion of the report was not read by Mr. Bridges and requested that he be asked to return and read the omitted portion in order that it might be on record with the House of Delegates. Mr. Bridges could not be reached and Dr. Trabue requested permission to read the added portion of the report a few minutes later. Permission was granted by the House. The reports were continued.

Liaison Committee to the United Mine Workers of America—B. M. Overholt, Knoxville

Advisory Committee to the Woman's Auxiliary—Clyde Croswell, Memphis, (read by the Executive Secretary)

Veterans Affairs Committee—H. H. Shoulters, Nashville

Dr. Trabue was then granted privilege of the floor to bring to the attention of the House an additional part of the report of the Public Service Committee: "The Committee sincerely deplores the necessity of announcing the resignation of our Public Service Director, Mr. Ed Bridges. The Committee assures the Association that we have made every effort to continue the services of Mr. Bridges but find that we cannot compete with the opportunities offered in his new position. The Committee wants to express our good wishes for his future success and happiness and our deep gratitude for all that he has done for our Association.

In spite of the loss of our Public Service Director, the Committee feels that the Public Service program of our Association has far more to accomplish in the future than in the past. In a special session this morning, Sunday, April 10, the Committee voted unanimously to vigorously pursue all phases

of our Public Service program in the future and to make every effort to re-place Mr. Bridges at the earliest possible moment. The Association may rest assured that the Public Service Program will continue to be an active program."

This was a supplementary report to the Public Service Committee report. Committee Reports were continued.

Rural Health Committee—W. N. Cook, Columbia

Grievance Committee—Ernest G. Kelly, Memphis

Committee on Blood Banks—M. L. Trumbull, Memphis, (read by David K. Gotwald, Nashville)

Committee on Physical Therapy—No Report  
Liaison Committee to Dept. of Public Welfare—R. H. Kampmeier, Nashville

Tuberculosis Committee—Carl Hartung, Chattanooga, (read by Executive Secretary)

Committee on Mental Health—Frank Luton, Nashville, (read by Joseph W. Johnson, Jr.)

Autopsy Committee—Leland M. Johnston, Jackson

The Speaker announced the appointment of the temporary Chairmen to preside over the assembled delegates of each of the three grand divisions of the state for the purpose of electing a permanent Chairman and naming a nominating committee. Temporary Chairmen were appointed as follows:

Dr. S. Fred Strain, West Tennessee

Dr. Walter D. Hankins, East Tennessee

Dr. N. S. Shofner, Middle Tennessee

The delegates from each of the three respective grand divisions were requested to meet with the temporary Chairmen immediately following.

The Speaker then requested that the delegation report to him the names of the nominating committee selected from each of the three grand divisions.

The House was then adjourned for lunch at 12:35 p.m.

#### SUNDAY AFTERNOON SESSION, APRIL 10

The House of Delegates reconvened at 1:45 p.m. for the afternoon session with Speaker Buchanan presiding.

The Speaker called the House to order, stating that a quorum was present and an-



nounced that we would proceed with the unfinished business from the morning session. Before doing so, the Speaker announced that the Nominating Committee had been duly elected and was composed of:

Dr. Ralph H. Monger, Knoxville, Chairman

Dr. John B. Steele, Chattanooga

Dr. Julian C. Lentz, Maryville

Dr. Thomas Weaver, Nashville

Dr. Harvill Hite, Jr., Pulaski

Dr. J. B. Black, Murfreesboro

Dr. G. H. Berryhill, Jackson

Dr. J. Paul Baird, Dyersburg

Dr. Horace D. Gray, Memphis

There were several guests in the House and they were introduced. Among them were: Dr. Zack D. Owens, President of the Medical Society of North Carolina and Dr. Thomas R. Gaines, President of the Medical Society of South Carolina.

The Speaker then returned to the regular agenda and began the business session by calling for the Health Project Contest Committee report which was given by Mrs. S. J. Sullivan of Cleveland.

Other Committee reports submitted were: Labor Liaison Committee—Daugh W. Smith, Nashville

Legal Liaison Committee to the State Bar Association—Geo. K. Carpenter, Nashville, (read by Executive Secretary)

Membership Expansion Committee—John R. Thompson, Jr., Jackson

Advisory Committee to Selective Service—Oscar F. Noel, Nashville

Liaison Committee to the State Dental Association—David Taylor, Dyersburg, (read by Roy McDonald, Knoxville)

Since it was passed over in the morning session due to the absence of Dr. C. B. Roberts, the report of the Committee on General Practice was read by Dr. W. A. Hensley of Cookeville.

A supplemental report to the Committee on Veterans Affairs was read by Dr. C. M. Hamilton and the Speaker suggested that this report be considered by the Reference Committee on Reports of Committees with the original report of the Veteran Affairs Committee.

Dr. Frank Luton, Chairman of the Committee on Mental Health, amended his re-

port by including two other activities of the Committee. All Committee reports were referred to the Reference Committee on Reports of Committees.

The Speaker asked for reports from any other committees that had not reported, and there being none, proceeded with the next order of business.

### Special Reports

The Speaker then announced that the next order of business would be the hearing of Special Reports and he presented the President of the Woman's Auxiliary to the Tennessee State Medical Association, Mrs. W. W. Hubbard of Nashville who then read a prepared report. This report is on file in the Association's offices.

Mrs. Hubbard introduced the President-Elect of the Woman's Auxiliary, Mrs. Roy A. Douglass of Huntingdon.

The second special report was read by Dr. R. B. Wood, Knoxville, former Chairman of the AMA Delegates, on the actions of the AMA House of Delegates. The full copy of Dr. Wood's report is on file at the Headquarters Office. The Special Reports were also referred to the Reference Committee on Reports of Committees.

The Speaker observed Mr. V. O. Foster, in the House, and since he was known to many of the delegates, paused for recognition of Mr. Foster.

After conclusion of the regular and special reports of committees, the Speaker stated that 30 out of 32 committees had reported, which was an unusually good record.

The next item of business on the agenda was a report from the Reference Committee on the Outstanding General Practitioner Award and the selection of the winner. The Speaker stated that the Committee, which had been kept secret until this time was composed of the three immediate past-presidents of the Association and he called upon Dr. Ernest G. Kelly of Memphis, Chairman, for the report. Dr. Kelly for the Reference Committee placed for nomination the names of the following three physicians as candidates for the Outstanding General Practitioner Award:

Dr. May Wharton, Pleasant Hill

Dr. Bernard H. Woodard, Springhill

Dr. C. E. Reeves, Gainesboro

Dr. Carl Gardner of Columbia spoke in favor of the candidacy of Dr. Woodard. Dr. H. F. Lawson spoke in favor of the candidacy of Dr. Wharton and Dr. W. A. Hensley of Cookeville spoke in behalf of Dr. C. E. Reeves. Those speaking in favor of the three candidates were limited to three minutes by the Speaker.

Following the brief nominating speeches, the Speaker asked the members of the House to prepare their ballots, and during the counting of the ballots, several announcements were made.

The Speaker stated the personnel of the nominating committee had already been announced.

#### Election of Councilors

The Speaker then called on the nominating committee to submit nominations for Councilors for the second, fourth, sixth, eighth and tenth districts, these terms having expired at this session. Dr. Monger, Chairman of the Committee placed the following names in nomination for Councilors:

For District # 2 Dr. Joe L. Raulston,  
Knoxville

For District # 4 Dr. John T. Moore, Jr.,  
Algood

For District # 6 Dr. D. C. Seward,  
Nashville

For District # 8 Dr. Leland M. Johnston,  
Jackson

For District # 10 Dr. Arthur R. Porter,  
Jr., Memphis

There being no nominations from the floor, the Speaker cast a unanimous vote of the House for the names submitted by the nominating Committee for election as Councilors for their respective districts.

#### Additional Amendments and Resolutions

The next item on the agenda called for the introduction of additional amendments and resolutions.

No amendment to the Constitution was submitted.

Dr. N. S. Shofner, Nashville, introduced a resolution relative to the Tennessee Plan. He outlined the opinions and advice of the underwriters of the Tennessee Plan. The resolution requested that the House of Delegates action adopted in 1954 be rescinded, relative to patients insured under

the Tennessee Plan but who otherwise held more than one insurance policy, not be disqualified from those benefits of the plan by virtue of having other insurance. The resolution was referred to the reference committee on resolutions.

Dr. C. M. Hamilton of Nashville introduced a resolution requesting a donation to the American Medical Education Foundation with the amount being left to the discretion of the Board of Trustees. The resolution was referred to the Committee on Resolutions.

Dr. W. C. Chaney of Memphis made additional comments relative to the resolution introduced by Dr. Hamilton for a donation to the American Medical Education Foundation.

Dr. Harold Starr of Chattanooga introduced a resolution relative to Pediatric Residency Training in hospitals. This resolution was referred to the reference committee on resolutions.

Dr. W. A. Hensley of Cookeville introduced three short resolutions having to do with dissolving the Charter of the White-Warren-Van Buren County Medical Society and the formation of separate county societies in White and Warren Counties. These resolutions were referred to the Council.

Dr. Charles C. Trabue introduced an amendment to Chapter II, Section 1 of the By-Laws which read: "Whereas, there is great dissatisfaction concerning meeting of the House of Delegates on Sunday morning, and Whereas, the Constitution will have to be amended to change the day of the meeting, Now Therefore Be It Resolved that the By-Laws be amended in Chapter II, Section I, Page 2 by deleting the phrase of "9:00 a.m." and Chapter IV, Section 1 by deleting the phrase of "9:00 a.m." After reading the proposed amendment, it was referred to the Reference Committee on Amendments.

The Speaker announced the balloting for the General Practitioner Award and stated that Dr. B. H. Woodard of Springhill had been elected.

The Speaker called for any other old business to be presented and there being none, he called for other new business that any delegate wished to present.

Dr. Leland Johnston requested whether

or not it should be brought up at this time regarding a petition for Benton-Humphreys County Medical Society. The Speaker determined that this piece of business should be held over until the first thing on Tuesday morning, thus giving the Council an opportunity to study the matter.

Dr. H. T. Kirby-Smith, Chairman of the Reference Committee on Resolutions, announced where his committee would meet and requested anyone that had any matter to present to the committee, he should come to the designated meeting place and that he would be heard.

There being no other business, the House was recessed at 3:45 p.m. until 9:00 a.m. Tuesday morning, April 12, 1955.

#### TUESDAY MORNING SESSION, APRIL 12

The House of Delegates reconvened at 9:15 a.m. in the Chestnut Room of the Read House with Speaker Buchanan presiding.

Dr. William A. Garrott, Chairman of the Credentials Committee, reported a quorum of qualified delegates present.

Mrs. W. W. Hubbard, President of the Woman's Auxiliary of the Tennessee State Medical Association, presented Mrs. George Turner of El Paso, Texas, President of the Woman's Auxiliary to the American Medical Association who spoke briefly. Mrs. Hubbard also introduced Mrs. Louis K. Hundley, President of the Woman's Auxiliary to the Southern Medical Association who gave a brief word.

Mr. Rowland Kennedy, Executive Secretary of the Mississippi State Medical Association was introduced.

Dr. Laurence Grossman, Nashville, requested the unanimous consent of the House to change the order of the day for the purpose of attending to the chartering of the County Medical Societies whose petitions were presented on Sunday. The motion was seconded and received unanimous consent of the House.

Dr. D. C. Seward, Nashville, Chairman of the Council stated that County Societies petitions requesting new charters had been reviewed and that the Council recommended favorable action. The recommendation was to abolish the Charter of the White-Warren-Van Buren County Medical Society

and issue separate Charters to the White County Medical Society and the Warren County Medical Society. It was moved, seconded and passed that **the recommendation be adopted for chartering the two new societies.**

Dr. Leland M. Johnston, Councilor for the Eighth District, presented a resolution requesting that Benton County be allowed to withdraw from the Consolidated Medical Assembly to join with Humphreys County, thus allowing a joint charter to be issued to Benton and Humphreys County Medical Society. The Chairman of the Council stated that the Councilors had been polled and approved of this Charter. The motion was made, duly seconded and carried that the Humphreys County Medical Society Charter be abolished and a new Charter issued to the Benton-Humphreys County Medical Society. The Charters were issued to representatives of the newly organized societies.

Dr. Thompson of Jackson introduced a guest to the House of Delegates, Dr. Jesse Funk, Bowling Green, Vice-President of the Kentucky State Medical Association.

#### Introduction of Additional Amendments and Resolutions

The Speaker stated that the House would return to the regular order of business and asked for introduction of any additional amendments or resolutions.

Dr. J. T. Bryan, Nashville, introduced a resolution requesting delegates of the TSMA to seek repeal of the AMA resolution of declaring the dispensing of glasses by ophthalmologists as unethical. (This was similar to a resolution already introduced.) The resolution was referred to the Reference Committee on Resolutions.

Dr. H. L. Monroe, Erwin, submitted an amendment to the Constitution to conform to the amendment to the By-Laws submitted on Sunday.

The proposed amendment to the Constitution under Article VII, Section 2 would amend this section to read as follows: "Section 2. "The Scientific sessions shall begin on Thursday following the second Tuesday in April, except as provided in Chapter II, Section 3 of the By-Laws. The Sections shall determine the dates of their meetings."



Since this amendment was introduced on the last day and as it affected the Constitution, the amendment was laid on the table and will be acted upon at the next annual meeting in 1956.

#### Report of Reference Committee on Amendments

DR. S. FRED STRAIN, Chairman

The Speaker then called for the report of the Reference Committee on Amendments, and Dr. S. Fred Strain, Memphis, Chairman, submitted the following report:

The two amendments to the Constitution that amended Article V and Article VIII, Section 5 were all passed and adopted on Sunday preceding, since these amendments had laid over from the 1954 meeting.

The amendment of the By-Laws affecting Chapter XII, Section 7, also was passed and adopted on Sunday since the amendment to the By-Laws had laid over from the 1954 meeting.

The Reference Committee reviewed the proposed amendment to the By-Laws introduced by Dr. H. L. Monroe, such amendment to read as follows: "To amend Chapter II, Section 1, of the By-Laws of the Tennessee State Medical Association by substituting the entire first paragraph with the following language: Section 1. "The Association shall hold an annual session beginning on Thursday after the second Tuesday in April and at such place as has been fixed at the preceding annual session, but it is agreed that the meeting shall rotate annually to Middle, West and East Tennessee."

The Reference Committee moved that this amendment to the By-Laws NOT BE ADOPTED SINCE IT WAS IN CONFLICT WITH THE CONSTITUTION, ARTICLE VII, SECTION 2.

Upon motion duly made, seconded and carried **the amendment was not adopted.**

The Reference Committee reviewed the second proposed change in the By-Laws as presented by Dr. H. L. Monroe of Erwin. The proposed amendment read as follows: "Amend Chapter II, Section 1, Paragraph 2. of the By-Laws so that it shall be changed to read as follows: "The House of Delegates shall meet annually at the place of the annual session of the Association. It shall meet at 9:00 a.m. Wednesday following the

second Tuesday of April and thereafter until its work is completed."

The Speaker of the House stated that the proposed change was not in order as it was in conflict with the Constitution, and Parliamentary Law outlined in Roberts' Rules of Order. Also, if adopted, this amendment would allow the meeting of the House of Delegates to conflict with the Scientific Sessions. The Reference Committee recommended that this amendment **not be adopted.**

Upon motion duly made, seconded and carried **the amendment was not adopted.**

The Reference Committee reviewed the Amendment to the By-Laws proposed by Dr. Charles C. Trabue. The proposed amendment read as follows:

"WHEREAS, there is great dissatisfaction concerning meeting of the House of Delegates on Sunday morning, and WHEREAS, the Constitution will have to be amended to change the day of the meeting, NOW THEREFORE BE IT RESOLVED, that the By-Laws be amended in Chapter II Section 1, Page 2 by deleting the phrase of 9:00 a.m. and Chapter IV, Section 1, by deleting the phrase of 9:00 a.m."

The reference Committee recommended the adoption of this amendment.

Since the Amendment had been introduced on Sunday and could be acted upon at this session, the motion was made for adoption, duly seconded and carried and **the amendment was adopted.**

It was moved that the report of the Reference Committee on Amendments be adopted as a whole. Upon motion duly made, seconded and approved, **the Report of the Reference Committee on Amendments was approved as a whole.**

#### Report of Reference Committee on Resolutions

The Speaker next called for the report of the Reference Committee on Resolutions, stating that the Committee had had a tremendous job to perform. The Speaker asked the Chairman, Dr. Henry T. Kirby-Smith of Sewanee, to read each of the resolutions separately before presenting his report. Dr. Kirby-Smith asked the Executive Secretary to read these resolutions.

Dr. Dana Nance of Oak Ridge moved that since the resolutions had previously been

read on Sunday, that the resolutions be summarized at this time, and then act upon them. This motion was duly seconded and carried and the Executive Secretary was asked to briefly summarize each of the resolutions prior to the recommendation of the Reference Committee.

**Resolution on Appreciation to Mr. Ed Bridges**

By DR. W. E. SCRIBNER, Kingsport

"WHEREAS, during the Sullivan-Johnson County Medical Society, 1954, Public Health Forums, inestimable assistance and guidance was rendered by Mr. Ed Bridges, without which said Forums could not have reached the high level of success attained;

"THEREFORE, BE IT RESOLVED, that at the request of the Sullivan-Johnson County Medical Society, the House of Delegates of the Tennessee State Medical Association hereby commends Mr. Ed Bridges for his untiring efforts and a job well done in the field of Public Service."

The Reference Committee recommended the adoption of this resolution. The question was called for, the motion was put to a vote and carried and **the resolution was duly adopted.**

**A Resolution to Call Attention to the Licensing Board for Healing Arts of Flagrant Practices and Violations**

By DR. RALPH O. RYCHENER, Memphis

"WHEREAS, medical advice and practice is now flagrant among druggists by over the counter prescribing and sale of such drugs as becoming common by optometrists who use anesthetic eyedrops and ointments in fitting contact lenses, who give advice to general practitioners and even order eye drops in cases of conjunctivitis. (They have no training for these procedures and these actions are in violation of the State Medical Practice Act.)

"THEREFORE BE IT RESOLVED, that the House of Delegates of the Memphis and Shelby County Medical Society be requested to memorialize the House of Delegates of the Tennessee State Medical Association, asking them to call these violations to the attention of the Licensing Board for the Healing Arts with the request that future violations be prosecuted in accordance with the laws of the State of Tennessee, and that

the Secretary of the Tennessee State Medical Association acquaint all members with the limitations in education of optometrists and request them to report individual violations of these laws." This resolution was adopted unanimously by the House of Delegates of the Memphis and Shelby County Medical Society April 5, 1955.

The resolution was amended by a motion of Dr. R. H. Hutcheson. The amendment directed that the Secretary mail a copy of the resolution and that part having to do with the pharmaceutical group to the State Board of Pharmacy, and the part having to do with optometry to the State Board of Optometry. **The amendment was duly adopted.**

The Committee recommended the adoption of the amended resolution, and upon motion duly made and seconded, **the resolution was adopted.**

**Resolution to Make It Unethical for a Doctor of Medicine to Teach in a College of Optometry**

By DR. RALPH O. RYCHENER, Memphis

"WHEREAS, the American Optometric Association in executive session in 1954, passed a resolution that 'all visual care lies within the scope of optometry and should be controlled exclusively by optometry,'

"THEREFORE BE IT RESOLVED, that the House of Delegates of the Memphis and Shelby County Medical Society request the House of Delegates of the Tennessee State Medical Association to instruct its delegates to the American Medical Association to introduce a resolution at the 1955 meeting of the American Medical Association which would make it unethical for any Doctor of Medicine to teach in or be associated with any school or College of Optometry, except that this shall not apply to Heads of Departments of Ophthalmology of Professional rank in State universities who have as part of their duties some advisory capacities in schools of optometry which are an integral part of those universities."

This resolution was adopted unanimously by the House of Delegates of the Memphis and Shelby County Medical Society April 5, 1955.

The Committee recommended the adoption of the resolution and upon motion duly

made and seconded, **the resolution was adopted.**

#### Resolution Concerning the Ethics of Dispensing Glasses

BY DR. G. H. BERRYHILL, Jackson

"WHEREAS: In the recent ruling of the Judicial Council of the American Medical Association that 'ophthalmologists cannot ethically provide glasses for their patients unless the service is unavailable without hardship or inconvenience to the patients, and it is unethical to profit from sale of glasses'; as well as, 'it is unethical for an ophthalmologist to profit from services of an optician working either in his office or on a referral basis.'

"WHEREAS: It is our honest opinion that the patient measurably benefits from the responsible physician's control over quality and accuracy of the dispensing as well as intelligent fitting service; and

"WHEREAS: The prescribing physician has always the sole responsibility for the patient's wear and comfort;

"THEREFORE, BE IT RESOLVED: That the Tennessee State Medical Association rule that the responsibility of the ophthalmologist for glasses is a medical problem not to be separated from the eye examination; and

"That the ophthalmologists be urged to accept the responsibility involved in the proper dispensing of glasses to their patients; and

"That it is ethical for ophthalmologists to dispense glasses in their offices provided there is no profit from such procedure."

The Committee recommended the adoption of the resolution and upon motion duly made and seconded, **the resolution was adopted.**

#### Resolution on Ophthalmology and Otolaryngology

BY DR. J. TOM BRYAN, Nashville

RESOLVED, The Tennessee State Academy of Ophthalmology and Otolaryngology petitions the House of Delegates of the Tennessee State Medical Association to instruct the delegates of the Tennessee State Medical Association to the American Medical Association to support a movement for repeal

of the AMA ruling of declaring the dispensing of glasses by ophthalmologists as unethical.

The resolution was discussed by Dr. Youmans and Dr. Killeffer. There was some confusion about these several resolutions and Dr. Ralph Rychener of Memphis explained the resolutions. Dr. William A. Garrott, Cleveland, stated that a resolution would be introduced in the House of the AMA for the repeal of that resolution. He stated that it would be introduced by the Section delegate.

Following the discussion, the Reference Committee recommended the adoption of the resolution and upon motion duly made and seconded, **the resolution was adopted.**

#### Resolution to Establish a Committee on Constitution and By-Laws

BY DR. JOHN R. THOMPSON, JR., Jackson

"WHEREAS, numerous amendments to the Constitution and By-Laws have been made from year to year; and

"WHEREAS, such changes often effect one Chapter or Section of the Constitution and By-Laws but in many instances other sections refer to the same measure; and

"WHEREAS, it has been the case in many instances where one Chapter or Section might be changed and another left unchanged, this has left the Constitution and By-Laws in somewhat of a misleading status; and

"WHEREAS, the Constitution and By-Laws of Tennessee State Medical Association should be thoroughly studied and remodeled where necessary.

"NOW THEREFORE BE IT RESOLVED, that the House of Delegates of Tennessee State Medical Association instruct the Board of Trustees to appoint a Committee on Constitution and By-Laws for the purpose of carefully studying and surveying the provisions contained in the Constitution and By-Laws and making a report with recommendations to this House of Delegates at the Annual Meeting in 1956.

The Committee recommended the adoption of the Resolution and upon motion duly made and seconded **the resolution was adopted.**



**Resolution for a Donation to the American Medical Education Foundation**

DR. C. M. HAMILTON, Nashville

"WHEREAS, many state societies make donations to the American Medical Education Foundation; and

"WHEREAS, Tennessee physicians are very negligent in making donations to this fund.

"THEREFORE, BE IT RESOLVED, That the Tennessee State Medical Association make a donation to the American Medical Education Foundation; the amount to be left to the discretion of the Board of Trustees."

The committee recommended the adoption of the resolution, and upon motion duly made and seconded **the resolution was adopted.**

**Resolution for Expenses of the President**

BY DR. JOHN R. THOMPSON, JR., Jackson

"WHEREAS, the Constitution of the Tennessee State Medical Association states the President will visit any component society which extends him an invitation, and

"WHEREAS, there is an organization nationally made up of officers of State Associations which discuss kindred problems arising in the various State Medical Associations and this organization meets in connection with the Annual meeting of the American Medical Association, and

"WHEREAS, it is necessary for the President of this Association to travel to various other State Associations and to other National Meetings, and

"WHEREAS, at the present time no provisions are made in the budget of the Tennessee State Medical Association for traveling expenses for the President of this Association,

"THEREFORE BE IT RESOLVED that this House of Delegates in session April, 1955, does hereby instruct the Board of Trustees to establish a President's Travel Expense Fund of not less than \$500.00 or more than \$1,000.00 per annum."

An amendment to this resolution was offered by Dr. Trabue, Nashville, to the extent that the President would submit an expense account and would be reimbursed up to \$1,000.00.

The committee recommended the **adoption of the amended resolution.** Upon motion duly made and seconded **the resolution was adopted.**

**Resolution Opposing Meeting on Easter Sunday**

BY DR. JOHN D. HUGHES, Memphis

"Be it hereby resolved that the strong opposition of the Memphis and Shelby County Medical Society to any state medical meeting being scheduled for the morning of Easter Sunday be forwarded to the Tennessee State Medical Association through its House of Delegates."

This resolution was adopted unanimously by the House of Delegates of the Memphis and Shelby County Medical Society April 5, 1955.

The Reference Committee made no recommendation on this resolution, but suggested that the matter be left to the discretion of the Board of Trustees who are responsible for conducting the plans and arrangements for the State Meeting.

The House took note of the suggestion and upon motion duly made and seconded, **the resolution was adopted.**

**Resolution on Membership in the World Medical Association**

BY DR. W. G. KENNON, JR., Nashville

"WHEREAS, The World Medical Association is the only international organization that has been formed for the purpose of representing the practicing medical and allied professions throughout the world; and

"WHEREAS, The World Medical Association is concerned with socio-economic, ethical, and medical educational matters on the international level; and

"WHEREAS, The World Medical Association has already effectively combatted socialism and is actively opposed to this idea in whatever form; and

"WHEREAS, The World Medical Association is supported by the American Medical Association in all its aspects; and

"WHEREAS, The World Medical Association is in no way officially connected with the United Nations; and

"WHEREAS, The World Medical Association needs the support of every practicing physician in the world; therefore be it

"RESOLVED, That this House of Delegates urge all the members of the Tennessee

Medical Association to become members of the World Medical Association."

The resolution was discussed by Dr. Kenyon and Dr. Hollis Johnson of Nashville.

The Reference Committee stated that it appreciated the sense of the resolution, but it was recommended that the resolution not be adopted at the present time. The Committee suggested that members of the Tennessee State Medical Association be urged to acquaint themselves with the function of the World Medical Association and affiliate if desired.

Upon the recommendation of the Reference Committee, **the resolution was rejected.** However, **the recommendation of the Reference Committee relative to this resolution was adopted.**

**Resolution on Rescinding 1954 Action of the  
House of Delegates Relative to the  
Tennessee Plan**

BY DR. N. S. SHOFNER, Nashville

"WHEREAS, a resolution was passed at the 1954 session of the House of Delegates to the effect that in cases where patients insured under the Tennessee Plan are otherwise entitled to receive full service but who hold one or more additional policies, the participating physician shall not be required to accept the benefits of the Tennessee Plan as full payment; and

"WHEREAS, the Prepaid Insurance Committee and Executive Subcommittee have discussed the manner of putting this resolution into effect and the effect on the Tennessee Plan in which discussion the Committee was joined by representatives of our underwriters; and

"WHEREAS, it was the unanimous opinion of the underwriters that such action would greatly injure public relations and complicate administration of the Plan; and

"WHEREAS, the Prepaid Insurance Committee was convinced of the validity of the view of the underwriters.

"NOW, THEREFORE, BE IT RESOLVED by the House of Delegates of the Tennessee State Medical Association that:

"1. The action taken by the House of Delegates in 1954 be rescinded and

"2. That patients insured under the Tennessee Plan who otherwise qualify for full service benefits are not disqualified for

these benefits by virtue of having other insurance."

The Committee recommended the adoption of the resolution and upon motion duly made and seconded, **the resolution was adopted.** Prior to this action, Dr. N. S. Shofner discussed the resolution and answered questions from the House.

**Resolution for the Good of the Order of the  
Tennessee State Medical Association**

BY DR. WILLIAM A. GARROTT, Cleveland

"The Bradley County Medical Society in regular monthly meeting February 8th passed the following resolution and instructed the Delegate to the State Association meeting to present it at the meeting of the House of Delegates and press its adoption by the House:

"BE IT RESOLVED THAT: The Board of Trustees, the Executive Offices, and the Public Service Committee be reminded that the Tennessee State Medical Association is *still* intended to serve the profession of all of the State with impartiality rather than just four or five of the larger component County Societies, as it appears to be done now."

The Reference Committee stated its disapproval of this resolution and moved that it not be considered or adopted. Dr. Garrott discussed the resolution in detail.

Following the discussion, the motion of the Reference Committee to **not adopt** was **defeated by a count of 27 to 24.** This action had the same effect as approving the resolution as presented.

**Resolution to Study the Changing of the Present  
Postgraduate Education Program**

BY DR. JULIAN K. WELCH, Brownsville

"WHEREAS, the circuit-rider type of postgraduate instruction has been a most forward step in the postgraduate instruction of rural physicians; and

"WHEREAS, this type of instruction was inaugurated in Tennessee in 1937 and was one of the most progressive ever taken by the Tennessee State Medical Association; but

"WHEREAS, eighteen years have progressed and many improvements have been made in transportation and facilities for postgraduate instruction; and

"WHEREAS, modern medicine is pro-

gressing at such rates that at such rates a review course of ten hours every fifteen years is inadequate to furnish proper postgraduate instruction; and

"WHEREAS, the medical schools of the State of Tennessee have available equipment, facilities and personnel necessary to establish more modern and more progressive types of postgraduate instruction; and

"WHEREAS, this Association together with the Tennessee Department of Health, Vanderbilt University and the University of Tennessee, and the participants of the program are furnishing approximately \$32,000.00 annually and it is the opinion of this Organization that a program of postgraduate instruction can be done more effectively with a savings; and

"WHEREAS, there is now established a separate office for the conduct of this postgraduate instruction in Memphis, the work of which could be accomplished by our full-time operatives at our Central Office in Nashville at a great savings,

"THEREFORE, BE IT RESOLVED, that the Delegates of the Consolidated Medical Assembly of West Tennessee to the Tennessee State Medical Association at Chattanooga be instructed to take whatever action is necessary for the modernization of the postgraduate program of the Tennessee State Medical Association.

"Motion—

"That the House of Delegates through appropriate committee, make a study of our present postgraduate course of instruction, that this study include the possibility of—

"1. Discontinuing the office in Memphis and consolidating the work in the Memphis office with the Nashville office of the Association.

"2. Completely revising the type of course given.

"It is further moved that the Board of Trustees be authorized to review the recommendations of the committee, make such changes as are necessary and take appropriate action to implement the committee's recommendation."

The Reference Committee moved the adoption of the resolution. A considerable amount of discussion ensued on this matter and it was discussed in detail by Dr. John

B. Youmans and Dr. Julian K. Welch.

The resolution was also discussed by Dr. L. A. Killeffer, Dr. Ogle Jones, Dr. J. H. Hite, Jr., Dr. R. H. Hutcheson, Dr. John R. Thompson, Jr., Dr. J. Paul Baird and others in the House.

The recommendation of the Reference Committee **to adopt the resolution as presented was defeated** and the resolution was amended as follows: In order to clarify the matter, it was moved that numerous proposed amendments to this resolution, be tabled. This motion was duly seconded and carried and the **amendments were tabled**. The following amendment was then introduced to the resolution: "The Board of Trustees were instructed to appoint a Study Committee for the purpose of surveying and studying the entire Postgraduate Education Program and if a new program is recommended by the Committee, to have the report made to the Board of Trustees and a called meeting of the House of Delegates be held to make the final decision on the question. Until the report is made and the meeting of the House of Delegates is called into session, the present type of Postgraduate Education Program now in effect will continue."

A motion from the floor to adopt the amended resolution was made, duly seconded and carried and **the amended resolution was adopted**.

#### Resolution to Continue the Present Postgraduate Education Program

DR. FRANK A. WHITACRE, Nashville

"WHEREAS, the postgraduate courses which have been conducted by the Committee on Postgraduate Instruction of the Tennessee State Medical Association since 1937 have been very beneficial to the physicians of the State; and

"WHEREAS, the fact that postgraduate medical education has become increasingly important as a method of maintaining the practicing physician abreast of the rapidly changing trend of medical thought and that a low percentage of the physicians of the State will or can take time to leave their practice for instruction; and

"WHEREAS, after a careful and thoughtful survey by the members of the Commit-



tee on Postgraduate Instruction concerning the present type of program;

"SO BE IT RESOLVED, that the present circuit-type program of medical instruction as conducted by the Tennessee State Medical Association be continued;

"AND BE IT FURTHER RESOLVED, that the next course be in Pediatrics as requested by the physicians of the State and Doctor James G. Hughes be appointed as Chairman of the Committee on Postgraduate Instruction to conduct said course;

"THEREFORE, I move that this resolution be adopted by the House of Delegates of the Tennessee State Medical Association and the Board of Trustees be authorized to make the necessary appropriations to conduct said program with the financial help from the Tennessee State Department of Health and the two medical schools—Vanderbilt University and the University of Tennessee."

The Reference Committee recommended that the resolution not be adopted. The Speaker stated that the action taken in the previous resolution superseded this resolution. It was moved, duly seconded and carried that **the resolution be tabled and the motion to table was adopted.**

#### Resolution Affecting Pediatrics Residency Training

BY DR. HAROLD STARR, Chattanooga

"This resolution was concerned with an inquiry into the present policies of the Residency Review Committee of the American Board of Pediatrics in their approval of Pediatric Residencies. It was pointed out that the requirements of this committee have become so rigid that it now appears to be virtually impossible for any hospital to obtain approval for a Pediatric Residency unless that hospital is operated by or in affiliation with a medical school. Such a program is not in the public interest because it makes it virtually impossible for any other hospital to operate a pediatric service which is, first: adequate for the practice of pediatricians; second: adequate for proper training of rotating internes or residents; third: adequate for training of nurses; fourth: adequate for the care of complicated pediatric cases in that community.

"Such a program has resulted in the closing of pediatric beds, and will result in a decrease of trained pediatricians, thus creating for all practical purposes a cartel (controlled by the medical schools) in providing adequate pediatric care.

"The resolution called on the House of Delegates of the Tennessee State Medical Association to make a full and adequate investigation of the situation which is now alleged to exist with reference to obtaining approval of Pediatric Residency Training Programs by hospitals.

"And the delegates of the Tennessee State Medical Association were instructed to forcefully bring this matter to the attention of the House of Delegates of the American Medical Association to the end that appropriate action be taken to investigate the conditions, restrictions and policy which is now followed by the American Board of Pediatrics.

"And the American Medical Association is called on to take appropriate action to correct such a condition if investigation reveals a policy of giving approval for Pediatric Residency Training only to those hospitals operated by or in affiliation with medical schools.

"The Secretary of the Tennessee State Medical Association is instructed to notify every other State Medical Association of the action of our House of Delegates before the next meeting of the American Medical Association."

The above resolution was passed by the House of Delegates of the Tennessee State Medical Association and also passed by the Tennessee State Pediatric Society in annual session on April 12, 1955, in Chattanooga, Tenn.

The Committee recommended the adoption of the resolution and upon motion duly made and seconded, **the resolution was adopted.**

Dr. Kirby-Smith, Chairman of the Reference Committee on Resolutions, stated that this completed the Report of the Committee and he moved the adoption of the report of the Committee as a whole.

Upon motion made and seconded, **the report of the Reference Committee on Resolutions with Amendments be adopted as a**

whole. The amended report of the Reference Committee on Resolutions was adopted.

Dr. Dan Thomas, Knoxville, moved that the regular order of business be altered in order that the House could proceed with the election of officers. This motion was duly seconded and carried with no opposition.

#### Report of the Nominating Committee on Election of Officers

The Speaker then called for the report of the Nominating Committee and stated that the House would proceed with the election of officers. Dr. Ralph H. Monger, Knoxville, Chairman of the Nominating Committee, submitted the following report:

#### Report of the Nominating Committee for Officers

DR. R. H. MONGER, Chairman, Knoxville

Mr. Speaker: Your Nominating Committee would like to place the names of Dr. R. B. Wood of Knoxville, Tenn., Dr. Harmon Monroe of Erwin, Tenn., Dr. Louis Killeffer, Harriman, Tenn., for the Office of President-Elect.

Your Committee would like to place the name of Dr. R. N. Buchanan, Jr., of Nashville, Tenn., for the Office of Speaker of the House.

Your Committee would like to place the name of Dr. Joseph W. Johnson, Jr., of Chattanooga, Tenn., for the Office of Vice-Speaker of the House.

Your Committee takes pleasure in presenting the name of Dr. R. H. Kampmeier of Nashville, Tenn., as Secretary-Editor.

We would like to place the nomination of Dr. James C. Gardner of Nashville, Tenn., for Trustee for Middle Tennessee.

Your Committee would like to nominate Dr. David Taylor of Dyersburg, Tenn., for Vice-President from West Tennessee. (Not eligible.) Dr. J. R. Lewis of Ripley, Tenn., was nominated and elected from floor for Vice-President from West Tennessee.

Your Committee takes pleasure in presenting the name of Dr. Carl Gardner of Columbia, Tenn., for Vice-President from Middle Tennessee. (Not eligible.) Dr. W. N. Cook of Columbia, Tenn., was elected from floor.

We present the name of Dr. W. N. Dawson of Maryville, Tenn., for Vice-President for East Tennessee.

Your Committee is pleased to present the names of Dr. W. C. Chaney of Memphis, Tenn., and Dr. C. M. Hamilton of Nashville, Tenn., for Delegates to the American Medical Association.

We would like to place the names of Dr. Harold B. Boyd of Memphis, Tenn., and Dr. R. H. Kampmeier of Nashville, Tenn., in nomination for the Office of Alternate Delegates to the American Medical Association.

Your Committee presents the names of the following three physicians for the Public Health Council, one of whom will be subsequently appointed by the Governor. (Middle Tennessee.) Dr. T. R. Ray, Shelbyville, Tenn., Dr. Ed Cutter, Clarksville, Tenn., Dr. Robert Quinn, Nashville, Tenn.

Following the report of the Nominating Committee, the ballots for the office of President-Elect having been collected and counted, the Speaker announced the following results:

For President-Elect:

Dr. Robert B. Wood—48 votes.

Dr. H. L. Monroe—23 votes.

Dr. L. A. Killeffer—9 votes.

Following the announcement of the selection for President-Elect, the Speaker appointed Dr. Dan Thomas, Dr. A. M. Patterson and Dr. John R. Thompson to escort Dr. Wood and present him to the membership in the General Scientific Session.

The Speaker then announced that the House would return to the regular order of business and he called for the Report of the Reference Committee on Reports of Officers.

#### Report of Reference Committee on Reports of Officers

DR. DAN THOMAS, Chairman, Knoxville

The Speaker then called for the report of the Reference Committee on Reports of Officers, of which Dr. Dan Thomas tendered the following report:

#### Report of President

Your Committee on Reports of Officers has reviewed the report of Dr. John R. Thompson, Jr., President, and wishes to commend him for his diligence in ferreting

out our faults and virtues and recommending the correction for the same. We feel he has been very devoted to his duties in the past year, as well as previous years, and we recommend to the House of Delegates that his report be accepted.

The motion to adopt the **report of President Thompson** was put to a vote and **unanimously carried**.

#### Report of President-Elect

Your Committee on Reports of Officers has reviewed the report of the President-Elect, Dr. Charles C. Trabue IV, and finds that he has furnished us an excellent treatise for our conduct and we wish to commend him for such a wonderful report as well as for his efforts in behalf of organized medicine over the past year and previous years.

Your Committee recommends the adoption of this report. Upon Motion duly made and seconded, **the report of the President-Elect was duly adopted**.

#### Report of Secretary-Editor

Your Committee on Reports of Officers has reviewed the report of Dr. R. H. Kampmeier, Secretary-Editor, and wishes to commend him for the production of a splendid JOURNAL, through the past year. The Committee wishes to recommend adoption of the report.

Upon motion duly made and seconded and carried, **the report of the Secretary-Editor was unanimously adopted**.

#### Report of Executive Secretary

Your Committee on Reports of Officers has reviewed the report of Mr. Jack Ballentine, Executive Secretary, and finds that his report on increase in the membership is complimentary to the Association, and that his recommendations concerning certain programs are worthy of our efforts and we recommend the adoption of this report.

Upon motion duly made and seconded, **the report of the Executive Secretary was unanimously adopted**.

#### Report of Chairman of Board of Trustees and Treasurer

Your Committee has reviewed the report of Dr. James C. Gardner, Chairman and Treasurer of the Board of Trustees, and

wishes to state that we are fortunate in having a group of trustees who have taken such an interest in the affairs of the Association and we wish to commend them for their work and recommend that their report be adopted.

Upon motion duly made and seconded, **the report of the Chairman of the Board of Trustees and Treasurer was unanimously adopted**.

#### Report of the Council

Your Committee has reviewed the report of Dr. D. C. Seward, Chairman of the Council, and wishes to recommend the adoption of this report, and to commend the Council for the excellent work which has been done in the past year.

Upon motion duly made and seconded, **the report of the Council was unanimously adopted**.

The Chairman moved that the report of the Reference Committee on Reports of Officers be adopted as a whole. Upon motion duly made and seconded, **the report of the Reference Committee on Reports of Officers was adopted as a whole**.

#### Report of Reference Committee on Reports of Committees

DR. JAMES A. KIRTLEY, JR., Nashville

The Speaker then called for a report of the Reference Committee on Reports of Committees, of which Dr. James A. Kirtley, Jr., of Nashville was Chairman.

Dr. N. S. Shofner of Nashville moved that the Chairman of the Reference Committee on Reports of Committees read the Committee's entire recommendations in order that the House could act on the report as a whole. The motion was duly seconded and adopted.

The Chairman then read the following report.

#### Report of Reference Committee on Reports of Committees

*Scientific Work and Editorial Board*—We recommend acceptance of this report.

*Hospitals*—We recommend acceptance of this report.

*Legislative and Public Policy*—We recommend acceptance of this report.

*Liaison to Public Health Department*—



We recommend acceptance of this report. Same as hospital report.

*Insurance*—We recommend acceptance of this report.

*Memoirs*—We recommend acceptance of this report.

*Postgraduate Instruction*—We recommend acceptance of this report with reservations and that the Committee recommends that further study be given to methods of Postgraduate Instruction.

*Cancer*—We recommend acceptance of this report.

*General Practice*—We recommend acceptance of this report.

*Emergency Medical Service*—We recommend acceptance of this report.

*Industrial Health*—No report was submitted for this Committee.

*Prepaid Insurance*—We recommend acceptance of this report.

*Public Service*—We recommend acceptance of this report with commendation.

*Liaison Committee to the United Mine Workers of America*—We recommend acceptance of this report.

*Advisory Committee to Woman's Auxiliary*—We recommend acceptance of this report.

*Veterans' Affairs*—We recommend acceptance of this report and the Supplementary Report.

*Rural Health Committee*—We recommend acceptance of this report.

*Grievance Committee*—We recommend acceptance of this report.

*Blood Banks*—We recommend acceptance of this report.

*Physical Therapy*—No report was submitted for this Committee.

*Liaison to Department of Public Welfare*—We recommend acceptance of this report.

*Tuberculosis Committee*—We recommend acceptance of this report.

*Mental Health Committee*—We recommend acceptance of this report.

*Autopsy Committee*—We recommend acceptance of this report.

*Health Project*—We recommend acceptance of this report.

*Labor Liaison Committee*—We recommend acceptance of this report.

*Legal Liason Committee to Bar Associa-*

*tion*—We recommend acceptance of this report.

*Membership Expansion Committee*—We recommend acceptance of this report.

*Advisory Committee to Selective Service*—We recommend acceptance of this report.

### Special Reports

*President, Woman's Auxiliary*—We recommend acceptance of this report.

*House of Delegates of A.M.A.*—We recommend acceptance of this report with commendation.

Dr. Kirtley then moved the adoption of the report of the Reference Committee on Reports of Committees as a whole. The motion was duly made, seconded and passed and **the report of the Reference Committee on Reports of Committees was unanimously adopted.**

### Other Old or New Business

The Speaker then moved to the next item on the agenda which was other old or new business.

Dr. J. L. Raulston introduced the following resolution:

#### Resolution on Unethical Advertising

"WHEREAS, the Blue Shield and Blue Cross was running advertisements in daily newspapers and it was considered to be unethical to insert such advertisements;

"BE IT HEREBY RESOLVED: that the Prepaid Insurance Committee of Tennessee State Medical Association direct its Chairman to write a letter to Blue Cross and Blue Shield protesting against insertion of this type of advertising and request that it be discontinued."

Dr. Raulston discussed the resolution and stated that he believed this type of advertising to be misleading and unethical. It was the opinion of the House that the Chairman of the Prepaid Insurance Committee should write a letter of protest to Blue Cross-Blue Shield. The motion was made, duly seconded and carried, **and the motion was unanimously adopted.**

Dr. J. Paul Baird presented the following questions to the House:

1. Does the House understand that the plan of the Veterans Affairs Committee for a type of Federal Insurance is in opposition

to the present AMA policy and is it willing to reaffirm or endorse this plan.

2. Does this House wish to ask for funds for the committee's operation.

3. Does this House wish to recommend that Dr. Shoulders' resignation as Chairman be accepted or rejected.

Dr. Baird made the motion that the House of Delegates go on record as encouraging continuation of the Veterans Committee and that the Committee request necessary funds for operation from the Board of Trustees.

The motion was presented that Dr. Shoulders' resignation be passed over for the time being and that the Board of Trustees be instructed to implore Dr. Shoulders to continue as Chairman of the Veteran Affairs Committee. The motion was amended that the House of Delegates express their appreciation for the work performed by Dr. Shoulders and implore him to continue as Chairman. **The amendment was duly seconded and adopted.** Following the adoption of the amendment, **the entire motion concerning Dr. Shoulders was seconded, put to a vote and carried.**

## MINUTES OF THE ANNUAL MEETING OF THE COUNCIL

The Annual meeting of the Council was held on April 12, 1955 at the Read House in Chattanooga. A quorum was present and the Councilors transacted the business presented. The Chairman, Dr. D. C. Seward, presided and called for the election of officers of the Council for 1955. Dr. Seward was re-elected Chairman for the coming year.

The office of secretary was the next election in order and members of the Council elected Dr. John T. Moore, Jr., for the office of secretary.

The Chairman stated that there were no new cases to come before the Council from County Societies. It was determined that a re-districting of the areas should be made in order that Benton and Humphreys Counties could be placed together as a single unit in the Seventh District and that Society and its Councilor be notified of the change.

The Councilors recommended favorable action on the resolution submitted by the White-Warren-Van Buren County Medical

## Memphis—Next Year

The next order of business was the selection of the place of the next annual meeting.

Dr. Philip M. Lewis of Memphis extended a cordial invitation to the Association to meet in Memphis in 1956. There being no other invitations, the House of Delegates accepted with pleasure, the invitation of the Memphis-Shelby County Medical Society to meet in Memphis next year.

Dr. H. B. Everett moved that the House extend a vote of thanks to the Chattanooga-Hamilton County Medical Society for providing such fine arrangements and entertainment for the Association this year. The motion was seconded and put to a vote and unanimously carried.

Following additional announcements, Dr. Gardner of Nashville, moved that the House adjourn sine die. The motion was seconded, put to a vote, and unanimously carried.

The House adjourned at 11:40 a.m.

J. E. BALLENTINE  
*Executive Secretary*

Society in which it was petitioned that this Society should be discontinued and its Charter surrendered, in order that two separate Charters could be issued, one to be known as the Warren County Medical Society and the other to be known as the White County Medical Society. Favorable action was taken and this resolution was adopted.

The Council approved the petition for a Charter for the Benton-Humphreys County Medical Society. This petition was presented and approved on the floor of the House of Delegates.

In view of the action of the Council, the Districts of the Tennessee State Medical Association were revised as follows:

*First District, H. L. Monroe, M.D., Councilor*

|           |                  |
|-----------|------------------|
| Carter    | Hawkins          |
| Claiborne | Johnson          |
| Cocke     | Sevier           |
| Grainger  | Sullivan-Johnson |
| Greene    | Unicoi           |
| Hancock   | Washington       |

*Second District*, Joe L. Raulston, M.D.,  
Councilor

|           |        |
|-----------|--------|
| Anderson  | Knox   |
| Blount    | Loudon |
| Campbell  | Roane  |
| Hamblen   | Scott  |
| Jefferson | Union  |

*Third District*, Cecil E. Newell, M.D., Councilor

|          |            |
|----------|------------|
| Bledsoe  | Monroe     |
| Bradley  | McMinn     |
| Franklin | Polk       |
| Grundy   | Sequatchie |
| Hamilton | Van Buren  |
| Marion   | Warren     |
| Meigs    | White      |

*Fourth District*, John T. Moore, Jr., M.D., Councilor

|            |           |
|------------|-----------|
| Clay       | Pickett   |
| Cumberland | Putnam    |
| Fentress   | Rhea      |
| Jackson    | Smith     |
| Macon      | Sumner    |
| Morgan     | Trousdale |
| Overton    | Wilson    |

*Fifth District*, H. T. Kirby-Smith, M.D., Councilor

|         |            |
|---------|------------|
| Bedford | Lincoln    |
| Cannon  | Marshall   |
| Coffee  | Moore      |
| DeKalb  | Rutherford |

*Sixth District*, D. C. Seward, M.D., Councilor

|            |           |
|------------|-----------|
| Cheatham   | Robertson |
| Davidson   | Stewart   |
| Montgomery |           |

*Seventh District*, C. D. Walton, M.D., Councilor

|           |            |
|-----------|------------|
| Benton    | Lawrence   |
| Dickson   | Lewis      |
| Giles     | Maury      |
| Hickman   | Wayne      |
| Houston   | Williamson |
| Humphreys |            |

*Eighth District*, Leland M. Johnston, M.D., Councilor

|          |           |
|----------|-----------|
| Carroll  | Henderson |
| Chester  | Henry     |
| Decatur  | Madison   |
| Fayette  | McNairy   |
| Hardeman | Perry     |
| Hardin   |           |

*Ninth District*, J. Paul Baird, M.D., Councilor

|          |            |
|----------|------------|
| Crockett | Lauderdale |
| Dyer     | Obion      |
| Gibson   | Tipton     |
| Haywood  | Weakley    |
| Lake     |            |

*Tenth District*, Arthur R. Porter, Jr., M.D., Councilor  
Shelby

There being no further business, the meeting of the Council was adjourned.

.....  
John T. Moore, Jr., M.D., Secretary

.....  
D. C. Seward, M.D., Chairman



# Abstracts of Reports of Officers and Committees Read Before the House of Delegates of the Tennessee State Medical Association, April 10, 1955

## Report of President

The report of the President, Dr. John R. Thompson, Jr. of Jackson was published in full on pages 121-123 of the April, 1955 issue of the *JOURNAL*.

## Report of President-Elect

The inaugural address of the President-Elect, Dr. Charles C. Trabue, IV, of Nashville, was published in full on pages 117-120 of the April, 1955, issue of the *JOURNAL*.

## Report of the Secretary-Editor

R. H. KAMPMEIER, M.D.

"Your editor has attempted to keep the *JOURNAL* of the Tennessee State Medical Association on a par with the Journals of the other state medical societies of comparable size. He also has kept before him the objectives first set for the *JOURNAL* as he became editor.

The 1954 volume contained the same number of non-advertising pages as in the previous year. The proportion of scientific to non-scientific copy has been kept at the commonly accepted 65:35 ratio.

The pages by the President, Executive-secretary and Public Service officer as well as some of our editorials have kept the Association acquainted with its activities in the fields of public service and organization."

## Report of the Board of Trustees

JAMES C. GARDNER, M.D., *Chairman & Treasurer*

The report stated that the Board of Trustees holds two regular meetings annually, one immediately following the annual session of the House of Delegates and a semi-annual session in the fall. During 1954 one additional meeting of the Board of Trustees was held.

In order to expedite policy decisions needing immediate attention, the members of the Board have been polled on questions by mail or by long distance telephone conferences. All mail votes are officially confirmed at the next regular meeting of the Board and entered into the official minutes.

The report further dealt with the matters of business transacted at the three meetings of the Board of Trustees held during the year.

The report dealt in detail with the steps taken to purchase a site for the location of a Headquarters office for the Tennessee State Medical Association. The Chairman related the manner in which the property had been purchased and the instructions to the Headquarters Building Committee as to the procedure to be followed towards erecting a permanent headquarters building.

In addition to being the interim policy making body, the Board of Trustees is also responsible for the finances of the Association. The Chairman of the Board also acted as Treasurer, signing all checks for any expenses incurred. Dr. Gardner outlined the steps of how the annual budget is established and the manner of control over finances. The Executive Secretary submits quarterly financial reports to each member of the Board for confirmation. In addition to the quarterly financial report, an annual audit of the fiscal affairs of the Association is secured from a certified public accounting firm, and the Chairman submitted for examination Exhibit "A", a copy of the Annual Audit for the year 1954 and Exhibit "B", a budget adopted by the Board of Trustees for 1955. He invited inspection of these exhibits by anyone who wished to see them. It was stated that the financial operating statement for the year 1954 appeared in the March issue of the *JOURNAL*.

The Chairman pointed out the many demands for expenditures that are made upon the Board of Trustees. Despite the limited financial resources, the Chairman reported that the Association's fiscal affairs were sound and secure.

## Report of the Council

D. C. SEWARD, M.D., *Chairman*

Dr. Seward's report stated that the Councilors had been asked to act in an advisory capacity to members of the Tennessee State Medical Association, that were faced with liability or malpractice suits. The report pointed out that many doctors are unwilling to contest the malpractice or liability cases presented against them, and this was one factor that many physicians were going to have to do something about. It was stated that if physicians faced with malpractice suits would agree to fight them in court, it would lessen the probability of additional suits and would put a damper on attorneys who sometimes are eager to take such cases to court.

The report dealt with unethical practices included in the various devices of furnishing or inspiring newspaper and magazine comments concerning cases in which the physician or group or institution is concerned. It was stated that self laudations defied the traditions and lowered the moral standard of the medical profession and are an infraction of good taste.

The report dealt with the matter of excessive fees. It was stated that nothing brings more resentment from the public than excessive fees.

Dr. Seward then summarized briefly the reports from the various Councilors and commended the Councilors for their faithful and efficient service

to the Association. The report related the disagreement between the doctors of Smith County relative to the operation of the Smith County Hospital.

The report especially commended the Councilor from the ninth district for his report and the outstanding meeting held in his area with members of the Legion and the Committee on Veterans Affairs. The report stated that the large and broadly representative attendance at the meeting in Dyersburg, conducted by Dr. J. Paul Baird, was the best testimony of Dr. Baird's enterprise and hard work for this Association.

The report further stated that the House of Delegates and the entire Tennessee State Medical Association should go on record as giving Dr. Baird a rousing vote of thanks for his forward look in such an important matter. Meetings of this type bring better understanding between the veterans administration, the medical association and the government.

The report also reviewed some of the important phases in the Tennessee Plan for Veterans Care. An expression of appreciation from the Chairman to all members of the Council was made for their untiring work and cooperation during the past year.

#### Report of the Executive Secretary

J. E. BALLENTINE

Mr. Ballentine's report revealed the status of the various types of membership of the Association on January 1, 1955 as compared to the similar period of 1954. Statistics were presented showing the number of members gained during the past year, as well as the percent of membership belonging to the American Medical Association. The report showed that the Association enjoyed a 5% increase in membership during the past year, a 12% increase over a five year period and a 22% increase over a ten year period.

The report discussed briefly the nine major areas of responsibility of the Headquarters office.

Mr. Ballentine stated that one of his prime objectives for the year was the increasing of advertising in the Journal of the Tennessee State Medical Association in order that it would be self-supporting and take care of the increased production and distribution cost. It was stated that \$5,327.40 in advertising income above the amount budgeted for the JOURNAL in 1954 was realized. The report stated that the Tennessee State Medical Journal was now one of the four state journals operating in the black with no portion of membership dues being allocated to the publication and distribution cost.

The successful medical-legal clinics conducted in Memphis, Jackson, Nashville, Chattanooga, Knoxville and Johnson City were reviewed and the methods of producing these clinics with the Bar Association of Tennessee, were outlined.

The report outlined another major project conducted by the Executive Secretary in conjunc-

tion with the faculty of the University of Tennessee School of Medicine. This was the presentation of a one-hour class each quarter to one of the medical classes at the University of Tennessee School of Medicine. The subjects dealt primarily with the explanation of the Tennessee Plan, but also included current problems of particular interest to organized medicine and especially to the Tennessee State Medical Association. The report stated that the students expressed considerable interest in these matters and it was believed that such a presentation greatly enabled future physicians to be able to carry on a successful practice.

The report concluded with a study of the projected population increase for Tennessee up until 1960. It was stated that these facts were of special significance to medicine because with the increase in population will be a demand for expansion of many medical services, hospital beds, public health facilities and the entire program in which we are involved. It was pointed out that hospital and medical and surgical insurance would greatly assist if a period of unemployment should occur.

#### Report of the Committee on Scientific Work

R. H. KAMPMEIER, M.D., *Chairman*

"We have continued, as in the past several years the policy of providing a scientific program for the general sessions of broad scope in terms of subjects. Except for a minimum of contributed papers, the topics and essayists have been selected by the Committee. We have hoped to make this type of program the best possible from an educational viewpoint. A panel discussion has been provided for a trial at this session.

The Chairman wishes to thank the members of the Committee for their aid and cooperation. The members are Doctors W. N. Cook, B. O. Garner, R. C. Kimbrough, Henry Gotten, H. L. Monroe, Lamb Myhr, E. White Patton, Addison Scoville, Jr., and Harwell Wilson."

#### Report of the Hospital Committee

J. L. HAMILTON, M.D., *Chairman*

"The only meeting of the Hospital Committee was held jointly with the Liaison Committee in Chattanooga on September 27, 1954 for the purpose of advising the Commissioner of Public Health of the State of Tennessee concerning the licensing of Hospitals and Clinics in the State.

The problems of the Licensing Board were outlined by Dr. R. H. Hutcheson, who explained the details and requirements of the existing law concerning licensing of Hospitals and Clinics. The two committees recommended the following to the Commissioner and the Licensing Board for Hospitals in Tennessee.

1. That any facility with ten beds, or more, would be recognized and licensed as a Hospital. Any facility with less than ten beds would be licensed as a Clinic.
2. A bonafide Hospital will also contain at least



one licensed registered nurse who is responsible for nursing service.

3. A bonafide Hospital will maintain adequate laboratory facilities.

The two committees also passed a joint resolution that "more adequate inspection be approved."

### Report of the Committee on Public Policy and Legislation

C. M. HAMILTON, M.D., *Chairman*

The report stated that the committee had undertaken the most ambitious legislative program in history during the last Legislative session of the Tennessee General Assembly.

The report stated that the Committee supported sixteen bills that were enacted into law and the two measures opposed, were defeated.

The report pointed out that the major campaign was centered on appropriate financing for the Hospital Service for the Indigent Act which was placed on the statute books in 1953.

The report further discussed individually the various bills presented and the action taken with regard to them. Among these, were a bill to license and regulate optical dispensers, a bill to regulate physiotherapists, a bill to make it legal and ethical to insert professional cards or list the staff of institutions in the Journal of the Tennessee State Medical Association, a bill to license psychologists to make it conform to the general law of the healing arts, a measure to strengthen existing laws on barbiturates, a bill to simplify the procedure for obtaining consent for an autopsy.

The Chairman outlined another meeting of the Committee with the representatives of the Washington Bureau of the American Medical Association to discuss medical legislation in Congress as it related to the National scene.

The report further stated that the Legislature convinced the Chairman that more and more members must take a greater interest and a more active part in the election of legislators, city councilmen, county courts, members of Congress and Presidents of the United States.

The report paid tribute to those other than the Committee who worked for the passage of the Association's measures in the legislature and Dr. R. H. Hutcheson, Mr. Charles Cornelius, Mr. Ed Bridges and Mr. Jack Ballentine were commended for the parts they contributed.

The report concluded by the Chairman presenting Dr. T. R. Ray, and Dr. John H. Gammon, members of the State Senate, and Dr. James O. Walker and Dr. L. S. Nease, members of the House of Representatives, and Dr. R. H. Hutcheson, State Commissioner of Public Health, who contributed so greatly to the successful legislative program of the Association. The gentlemen were given a rising vote of thanks.

### Liaison Committee to Public Health Department

JOHN B. STEELE, M.D., *Chairman*

The Chairman stated that the report of this

Committee dealt with the same measures and was practically the same as the report of the Committee on Hospitals. He moved that the report not be read and stated that it corresponded entirely with the report given by the Chairman of the Committee on Hospitals.

### Report of the Insurance Committee

B. F. BYRD, SR., M.D., *Chairman*

The report stated that the group policy for disability was doing a good job and running smoothly. It was stated that the group had increased during the past year. Claims were being handled well.

The report dealt with an investigation with reference to a group liability policy as studied by the Chairman and the Executive Secretary. It was reported that no company had been found that would be interested in this type of group coverage.

### Report of the Memoirs Committee

HENRY DOUGLASS, M.D., *Chairman*

The report stated that forty-four members of the Tennessee State Medical Association died in 1954. The Chairman read the names of those deceased.

"Memorials, which are meaningless to the dead, inspire philosophical and spiritual ideals in the living who must carry on. The character and magnitude of this report must be of fateful interest to every member of this House and to all others. We may now better understand that the unalterable past is the inevitable future. Men share the benefits and responsibilities of life with others. In death they go alone. And it may seem strange in the Divine transition from things temporal to things eternal that the Landlord and the Tenant become equals.

"Mindful of these facts, we think it would be inappropriate or even presumptuous for this Committee to attempt an appraisal of the individual achievements of the forty-four members to whose memory this report is dedicated.

"However, we would be remiss not to remind you that Medicine is a great cause, and like every other great cause, the question is not how much you can get out of it, but how much you can give to it. They devoted their years time and efforts to the advancement of this cause, as many others have done throughout recorded time. They, as others, strove for that objective with an idealism laid down 2,500 years ago and never since amended or changed. For them, this is the least we can say and it is also the best we know how to say."

Fame is no plant that grows on mortal soil,  
Nor in the glistening foil  
Set off to the world, nor in broad rumour lies  
But lives and spreads aloft by those pure eyes  
And perfect witness of all judging love:  
As he pronounces lastly on each deed  
Of so much Fame in Heaven expect they need.



### Report of the Committee on Postgraduate Education

FRANK WHITACRE, M.D., Chairman

The report stated that the Postgraduate Course in Obstetrics conducted by Dr. Charles A. Behney had been completed in seven teaching circuits. It was stated that the attendance had been high and 75% of the physicians who enrolled received Certificates of Attendance. The report pointed out that 100 consultations during the first seven circuits had been rendered in addition to the program.

The course is now being conducted in the teaching centers of Clarksville, Gallatin, Lebanon, Springfield and Nashville. When the Circuit is completed the later part of May, the final teaching circuit will be organized, and should be completed by July 31, 1955.

Appreciation was expressed for the continued financial assistance given to the Postgraduate Program by the two medical colleges—Vanderbilt and University of Tennessee—the Tennessee State Department of Public Health and the Tennessee State Medical Association. The report expressed appreciation to the local medical societies for their help and cooperation in organizing the courses in the teaching centers of the state.

The report as stated by the Committee, invited suggestions for the betterment of the program.

### Report of Cancer Committee

R. H. MONGER, M.D., Chairman

The report summarized the program and projects in cancer as adopted by the Committee on March 20, 1955. The report dealt with a review of the activities of this Committee in the past and the work that will be undertaken by the present Committee.

The report stated that County Medical Societies will be urged to conduct cancer programs and that cancer papers be presented at future medical assemblies planned for the year, throughout the state. The report stated that it is intended that medical education of the profession be continued and that this program be supplemented with additional education of the public.

The report stated that committees would be established in the various grand divisions of the state to work with the professional education committees of the American Cancer Society and that material, educational films, and manpower of the Cancer Society's committee be utilized by the Cancer Committee of this Association.

The report stated that the Committee had adopted a resolution relative to indigent care that would take steps to extend the Indigent Hospital Care Act to cover cancer patients. Furthermore, that pressure be brought to bear on County Medical Societies to urge county courts for a more realistic care of each county's indigent patients.

The report further pointed out that the implementation of television and radio programs for

public education on cancer, in cooperation with the Tennessee Division of the American Cancer Society, should be studied.

It was also urged that a postgraduate program on cancer be undertaken over a two-year period provided a \$10,000 grant for financing this program could be obtained from the American Cancer Society.

### Report of the Committee on General Practice

C. B. ROBERTS, M.D., Chairman

The report stated that the Committee was intensifying its efforts to broaden the scope of postgraduate courses sponsored by the Tennessee Academy of General Practice and its six component academies. The report reviewed the one-day postgraduate courses presented last year. The report related the activities of the component academies who were conducting formal postgraduate meetings as part of their year-round program and it was stated that the entire state is fairly well covered by their education campaign.

The work of the medical students at the University of Tennessee and their care of the indigent was reviewed. It was stated that approximately 5,000 indigent were cared for by the students each month.

The report stated that the Tennessee Academy of General Practice was exerting every effort to keep its members abreast of the swift advance of medical science.

### Report of the Committee on Emergency Medical Services

FRANK A. MOORE, M.D., Chairman

The report stated that the primary duties of this Committee were related to Civil Defense. Other than keeping abreast of activities and attending regional conferences on Civil Defense, no other action had been taken by the Committee.

### Report of the Committee on Industrial Health

OTIS S. WARR, M.D., Chairman

The Committee did not present a report to the House of Delegates during the regular session and no member of the Committee was present to make a supplementary report.

### Report of Prepaid Insurance Committee

N. S. SHOFNER, M.D., Chairman

The report outlined the growth of the Tennessee Plan during the past year and it stated that 765,928 Tennesseans were now insured under the Plan. Slightly more than 1,700 participating physicians, which is 81% of the membership, cooperate with the Plan as participating physicians. Thirty-six underwriters handle the policies covered under the Plan.

The report related the smooth administrative operation of the Plan. The Chairman outlined the manner in which problems are referred to the Executive Secretary and subsequently acted upon by the Executive Sub-Committee.

The report dealt with patients holding insur-

ance policies other than a policy in the Tennessee Plan. It was related the various problems that had been confronted by the Committee relative to duplication in insurance and the action taken by the House of Delegates on this matter in the sessions of 1954.

The report also stated that studies had been made to add other specialties such as anesthesia, radiology, medicine and pathology.

The report related the feelings of the Advisory Committee, representing the carriers, relative to the adverse effect that it would have if the policy adopted by the House in 1954 were put into effect by the Committee. (This policy adopted in 1954 would not make it binding for a physician to accept the fee schedule for those patients holding additional policies to a Tennessee Plan policy.)

The underwriters pointed out that it was the right of the Association to modify the plan if it saw fit; however, experience in other states revealed the bad effect that modifying and changing a plan once it had started, had upon the public.

The report dealt with the two surveys made by the Tennessee Hospital Service Association and another by one of the actuary representatives of the Advisory Committee of the Health Insurance Council.

The report pointed out that the Committee strongly believes that the Tennessee Plan enables doctors to collect fees that otherwise would not be collected and that although most doctors occasionally felt they were done an injustice by patients having two or more policies, all in all, the plan was not demanding much if any sacrifice from doctors.

The Chairman related the studies made by the Committee toward expanding the Plan. He outlined that other specialties had been by-passed for the present since the Committee believed that the most pressing expansion should be in the field of medical benefits. The report stated that medical benefits for "in hospital service" be studied and that the matter be submitted to the Sub-Committee headed by Dr. Chaney of Memphis for final approval before action is taken. Furthermore, the executive Sub-Committee would continue to study adding of a rider type of policy to cover X-ray therapy and to continue a more detailed study of a deductible plan of insurance with the possibility in mind of the later adoption of some such plan, which appealed strongly to the members of the Committee.

#### **Report of Public Service Committee**

L. W. EDWARDS, M.D., Chairman

(Read by Mr. Ed Bridges, Public Service Director)

The report outlined in detail the effort and development given to the Plan for the Medically Indigent. It stated the appropriation of \$1,600,000 originally sought for the project. The report related that 79 County Courts had voted to participate. The report further outlined the effort made

in contacting the County Courts involved. The report stated that 32 other state medical associations were closely watching developments in Tennessee.

The report outlined the organization of the "People's Lobby" composed of representatives from the following: The Tennessee Federation of Labor (AFL), The United Mine Workers of America, The Tennessee Congress of Industrial Organization (CIO), The Big Four Brotherhood of Railway Trainmen, The Tennessee Farm Bureau Federation, The Tennessee Congress of Parents and Teachers, The Tennessee Society of Physiotherapists, The Tennessee Society of Psychologists, The Tennessee Hospital Association, The Tennessee Dental Association, The American Society of Social Workers, and The Tennessee State Medical Association.

Numerous conferences were held with the Governor, his financial advisors and political friends, relative to the needed revenue. The report stated that after numerous conferences, the Administration put into its budget a total of \$300,000 for the next two years beginning July 1, 1955. This was double the amount previously allocated.

The report stated that a two-year campaign would be begun immediately to get the participation of all 95 counties in the State into the Plan for the Indigent.

The report stated that after only 9 months of experience, Tennessee had gone further with this project than many other states had done in ten years.

At the close of the report, the Director announced his resignation from the Tennessee State Medical Association. The report also emphasized the budget of the Public Service Department and the percentage of income dues spent on Public Service.

An attachment was included with the official report, which was published in the December, 1954 JOURNAL of TSMA, in the Public Service Section.

#### **Report of the Liaison Committee to UMWA**

B. M. OVERHOLT, M.D., Chairman

The report stated that the Committee had not had any unresolved difficulties between the fund and the physicians of Tennessee during the past year. It was stated that the several officers of the State Association attended the conference on medical care in the bituminous coal mine area sponsored by the Committee on Medical Care for Industrial Workers of the council on medical service and the council on industrial health of the American Medical Association. The Chairman revealed the following resolution which was passed unanimously by the council: "The third conference on medical care in the bituminous coal mine areas has heard with great interest reports from Tennessee concerning its program for bettering medical care in low income sections in its coal fields. The work done in these areas serves the entire profession as a pilot project in



cooperation between organized medicine, State Health Department, a labor union sponsored health program and local communities. The progress made in meeting the health problems of marginal income areas reflects credit upon the medical profession of Tennessee and its medical schools. It benefits the entire medical profession by its favorable effect upon public opinion. Now, therefore, be it resolved by this conference that we congratulate the Tennessee medical profession and medical schools on their accomplishments and express our sincere appreciation for the expenditure of time and effort which has gone into it."

The report further stated the satisfaction and appreciation of the contribution of Tennessee doctors as viewed by the Executive Medical Officer of the United Mine Workers of America retirement fund.

#### **Report of the Advisory Committee to the Woman's Auxiliary**

CLYDE CROSWELL, M.D., Chairman

The report stated that the Advisory Council of the Woman's Auxiliary to the Tennessee State Medical Association was happy to serve under the able leadership of Mrs. W. W. Hubbard, Auxiliary President. The report revealed the support and advice given relative to major legislation in Tennessee as came about in the recent session of the Tennessee General Assembly.

The Advisory Committee had been called upon for assistance relative to Memphis and Shelby County Schools and their participation in the Health Essay contest. The report stated its interest in the work of the Woman's Auxiliary and offered its continued assistance.

#### **Report of Committee on Veterans Affairs**

H. H. SHOULDERS, M.D., Chairman

Part 1 of the report of the Chairman of the Committee on Veterans Affairs deals with the difference between the policy adopted by the House of Delegates of the AMA in 1953 and the policy adopted by the House of Delegates of the Tennessee Medical Association. In the main, they are as follows:

1. The AMA policy recommends that the Congress enact legislation which would abolish the VA program of medical care insofar as it relates to acute non-service connected cases.

This policy is based on a philosophy which says that Veterans who were not injured by service are not entitled to special benefits from the Federal Government.

2. The policy adopted by this Association recommends the enactment of legislation which would make available to low-income veterans, a medical and hospital insurance policy in lieu of the benefits in the form of free services in VA hospitals, that would cover the cost of necessary hospital care for all acute non-service connected conditions and that the Federal Government pay the premium cost of the insurance coverage.

The position of the Tennessee State Medical Association is based on the following considerations:

1. That the attitude of the public and Congress toward Veterans is such that benefits in one form or another for low-income veterans will not be abolished.

2. That an attempt to destroy this will do harm to the public relations of the entire medical profession.

3. That the energies of the medical profession should be directed toward the enactment of measures which will preserve the freedom of medicine.

Item 1 in the report points out that the AMA leadership has not sponsored the Federal legislation necessary to implement the policy. No bill has been introduced in the Congress. The AMA now maintains an office in Washington which is registered under the lobbying act.

The question of importance to the medical profession then is, Why has the AMA adopted the policy which requires legislative action by the Congress and Tennessee fails to sponsor the necessary legislation?

It is also a fact that a large number of doctors including the deans, and deans committees of medical schools have acquired a vested interest in the present VA program and they have opposed the adoption of the Tennessee policy because it might disturb their positions.

The report mentions the fact that the Board of Trustees did not provide the Committee with a budget adequate to perform the duties assigned by the House of Delegates.

The report further points up the fact that the expansion of the present VA program on medical care has gone right on since the AMA policy was adopted and that the AMA policy up to the present time has no beneficial effect whatsoever.

The present AMA policy together with the attitude of the leadership of the AMA on the matter of sponsoring legislation to implement the policy and the effect of protecting the present program of the Veterans Administration is that it has prevented the enactment of the policy which the Congress in all probability would enact.

The report points up the fact that the rank and file of members of the AMA are now disillusioned with regard to the possible effectiveness of the AMA policy and the present leadership, which is the basis and hope that constructive action may yet be taken.

Reference was made to a series of articles prepared by Mr. James Ratliff that have appeared in the *Cincinnati Enquirer* in recent months with regard to the present VA program. The paper emphasizes the fact that insurance has been well adapted to the financing of medical and hospital care and that its wide use will preserve the freedom of medicine.

The Committee recommends that the House of Delegates reaffirm its loyalty to the policy adopted some years ago on this subject and that the ef-



forts to secure its adoption by the AMA and enactment by Congress be continued, and that the Committee be continued and that it receive financial support sufficient to make the work effective.

### Report of Committee on Rural Health

WILLIAM N. COOK, M.D., Chairman

The report stated that it was the plan of the Committee on Rural Health to make it known to all organizations in the state having an interest in this field that the TSMA has such a committee and is anxious to help in problems on Rural Health.

The report reviewed the several conferences with representatives of the Agricultural Extension Service of the University of Tennessee and the Farm Bureau and the initial program presented to the Mynders Community Improvement Club in Maury County last year. Plans have been made to carry out a similar forum in each of the five districts of the Extension Service in 1955 if desired. The report stated that such programs should prove useful in determining what problems we have in Rural Health.

The report stated that the Committee Chairman attended the Tenth National Conference on Rural Health sponsored by the AMA at Milwaukee in February of 1955. There were several other programs presented on home and family life and responsibility for health. The report stated that the Chairman gave a report to the National Conference as prepared by Mr. Ed Bridges, Public Service Director, on the subject "The Twain Did Meet."

In conclusion, the report stated that the Association and the Rural Health Committee have the means to carry our Public Service to the "grass roots" with the aid of our entire Rural Health Committee plus any assistance we may need from the American Medical Association's Council on Rural Health.

### Report of the Grievance Committee

ERNEST G. KELLY, M.D., Chairman

Dr. Kelly, Chairman of the Committee, stated that two meetings were held during the past year. Three cases were submitted for consideration, two of which were handled to everyone's satisfaction by the local committees. In the other case, the local Grievance Committee's solution was not satisfactory to the complainant.

The report outlined the manner in which this third grievance was handled, and the fact that both parties were invited to appear before the State Grievance Committee for consultation.

The report commended the job being accomplished on the local level by the County Society Grievance Committees and stated that a better relationship between the doctor and his patient was the result of these careful actions.

### Report of the Committee on Blood Banks

M. L. TRUMBULL, M.D., Chairman

Since making the report in 1954, two inquiries

have been directed to this committee. In each instance the local medical society was urged to have its problem settled, if possible, at a local level.

In last year's report reference was made to the development of a new national blood program whereby interested organizations were carrying on conversations designed to bring a greater degree of coordination between existing types of blood programs. The progress to date has resulted in the incorporation in the State of Illinois of the Blood Foundation. It is strongly hoped in some quarters that new Foundation will prove to be merely a policy making body designed to promote the improvement of blood transfusion standards, the collection and distribution of blood in time of peace and especially during times of emergency and war, and even to develop means whereby blood banks will be inspected and accredited. The Foundation is not intended to supplant existing organizations or blood banks, but it is intended to bring about a greater degree of coordination and cooperation between all of these existing facilities. As of this date, the By-Laws of this Blood Foundation have not been adopted, consequently the Blood Foundation is not in operation and probably will not be for a few months.

### Report of the Committee on Physical Therapy

GEORGE W. SHELTON, M.D., Chairman

The Committee did not present a report to the House of Delegates and no member of the Committee was present to make a supplemental report.

### Report of the Liaison Committee to the State Department of Public Welfare

R. H. KAMPMEIER, M.D., Chairman

The report stated that no occasion had arisen for the Committee to be called in the past twelve months. However, a brief report reflects the importance of the activities of certain of our members for the common good. The Committee is primarily an advisory committee which originally set up the medical aspects of the Public Assistance Programs and has advised the Department of Public Welfare concerning a matter of definition, the terms of varying types of disability and total disability within the limits of the statutes.

The Medical Review Board now consists of two internists, a general surgeon and an orthopedic surgeon. This Board has reviewed during the past year 10,390 cases or an average of 866 per month, being subdivided into 7,602 Aid to Dependent Children cases and 2,788 Aid to the Disabled cases. Of the former group 67% were approved for disability, of the latter 35% were approved for disability. As of February, 1955, 5,874 families were receiving A.D.C. grants at a monthly cost of \$384,218, parent disability representing 27% of this load. This should be compared to the case load of 1950, of 12,320 families with disability representing 48% of the total case load. This was before the medical profession was

asked for advice concerning this problem. As we reported to you last year, proper medical review of these cases and the correction of remedial conditions by Vocational Rehabilitation upon the advice of the Medical Review Board, reduced the case load with a tremendous saving to the taxpayer.

The 1955 legislature in increasing the appropriation for the Aid to the Disabled Program to an amount three times that allotted for the biennium 1952-55 will expand the work of the Medical Review Board. In summary it should be said that the State of Tennessee is well ahead of the federal requirements, and we believe of most states in better supervision and control of the medical aspects of the programs having to do with Aid to Dependent Children and the Aid to the Disabled. The Commissioner for the Department of Public Welfare has again expressed her appreciation of the valuable aid of the Advisory Committee and for the services of the Medical Review Board. This Committee has served in the best interests of the citizens of the State and in its stand-by capacity is ready to advise when and if new medical problems arise in the field of Public Welfare.

#### **Report of the Committee on Tuberculosis**

CARL A. HARTUNG, M.D., Chairman

The report stated that the work of the Tuberculosis Association had been followed during the past year and matters were being taken care of adequately. The report stated that no special meeting had been necessary and it was the opinion of the Chairman that the State of Tennessee was making definite and rapid progress relative to tuberculosis.

#### **Report of Committee on Mental Health**

FRANK H. LUTON, M.D., Chairman

The report outlined the many activities and committee organizations with which members of the committee had been associated during the past year. These Committees had to do with Mental Health problems throughout the State. The report stated that the function of the Committee and its activities were aimed at the improvement of facilities for treatment, passage of better laws for the management of the mentally ill and the dissemination of information leading to the possible prevention of mental illness.

The Chairman outlined the program initiated within the Southern Governors' Conference relative to a survey of facilities of training and research resources of related mental health organizations in 16 southern states. The report further outlined the activities of the Southern Regional Mental Health Council as established and promoted by the Governor of Tennessee in the Southern Governors' Conference.

The report outlined the revision of the laws pertaining to the care and treatment of the mentally ill as studied by Dr. Cyril Ruilmann, State Commissioner of Mental Health.

The report related the following suggestions as to the function and formation of a committee on mental health. They are:

1. Mental health is a medical problem involving principles of prevention and treatment. Therefore it is important that the State Medical Association be informed about all activities pertaining to this topic.

2. Since there are so many sick persons who have problems closely related to the emotions it is essential that closer relations between the psychiatrist and other physicians be promoted. On the psychiatric side the psychiatrist should take a more active part in general medical deliberations, should speak more at medical meetings, and write more for the State JOURNAL.

3. There should be a close relationship between this Committee and other organizations having as their purpose the prevention of mental illness and the improvement of facilities for research and treatment.

4. In view of the broad ramifications of mental factors in disease, this Committee should include other specialists than psychiatrists, especially the pediatrician and the internists.

#### **Report of the Autopsy Committee**

LELAND M. JOHNSTON, M.D., Chairman

This Committee was primarily organized to draw up a code of ethics for the performance of autopsies. Such a code was drawn up and approved by the Autopsy Committee of the Tennessee State Medical Association and the officers of the Tennessee Funeral Directors and Embalmers Association in 1954.

During this year the Chairman of your Autopsy Committee has met with the officers of that organization, and since no outstanding differences existed and no problems have arisen, no significant action has been taken.

#### **Report of the Health Project Contest Committee**

MRS. S. J. SULLIVAN, Chairman

The report outlined the manner in which the Health Project Contest was established and cleared through the Tennessee Education Commission. The report revealed that 256 letters and cards requesting and passing on information concerning the Health Project were mailed. The report stated that school officials were very cooperative and enthusiastic; however, there were several counties where there was no participation.

The Chairman pointed out that a stronger link in the educational field to bring unity with the Woman's Auxiliary to the Tennessee State Medical Association is needed in promoting the health project. It was suggested that perhaps a cash award to the teacher of the winning project might stimulate further interest.

The report stated that a total number of students involved in the project for the past year numbered 3,852.

The projects covered the following subjects: "Diabetic Detention Survey," "Survey on Health Problems at Rickman High School," "Progress of Medicine," "Voluntary Health Insurance," "To Survey Our Community for Mental Health Services and Inform Ourselves and the Public on How Such Services as Are Available May Be Used to Best Advantage," "Survey of Health Problems in Our City and County."

Winners of the Health Project Contest for 1955 were: Miss Norris Dale McLemore and Miss Jo Anne Willoford of Medina, Tenn.

### **Report of Committee on Liaison to Organized Labor**

DAUGH W. SMITH, M.D., Chairman

"Although your Committee has not conducted an official meeting with the representatives of four bodies of organized labor in Tennessee since the last Annual Meeting, we have kept in constant touch with these groups and we have worked together both through the Tennessee State Medical Association and the Tennessee Medical Foundation.

"I think it is significant that these four groups joined other organizations and did a tremendous amount of work in the campaign to obtain a better appropriation for the 'Hospital Service for the Indigent Act.' It is also very significant that all of these labor organizations sponsored and originated a bill designed to double the amount of money allowed for the doctor's services in Workmen's Compensation cases. The Bill did not pass.

"During the first meeting of organizations working for the Indigent Appropriation, one prominent labor leader said he thought the Tennessee physicians 'are the real Samaritans of this day and age.' He said he did not believe that they should give their services free as they have pledged to do under the Indigent Law.

"We have conducted many talks with representatives of labor whose primary job is to push health insurance for their members. It is encouraging to report to you that many unions, in collective bargaining and outside of collective bargaining, pushed the Tennessee Plan as a fair and reasonable service program.

"Labor newspapers in Tennessee continue to criticize the American Medical Association for some of its policies but they frequently praise organized medicine in Tennessee. All of you know that the TSMA does not agree one hundred per cent with several AMA policies.

"In conclusion, your Chairman wishes to know if the House of Delegates wants this Committee continued and if you have any special suggestions you would like to make."

### **Report of the Legal Liaison Committee**

GEORGE K. CARPENTER, M.D., Chairman

The report revealed the manner in which the Committee was organized and its relationship to

the Bar Association of the State of Tennessee.

The Medico-Legal Liaison Committee representing both the medical and bar associations recommended medico-legal clinics to be conducted in different areas of the state during the year.

It was pointed out that successful medico-legal clinics were conducted in Memphis, Jackson, Nashville, Chattanooga, Knoxville, and Johnson City during the past year. It was stated that the meeting in Knoxville was a very elaborate one and lasted two full days. It was jointly conducted by the Knoxville Academy of Medicine, the Knoxville Bar Association and the University of Tennessee Institute of Law.

The report stated that the programs were of a general nature and a sample program is as follows: "Back Injuries," "Medical Aspects of Workmen's Compensation Law," "The Medical Witness," "Legal Aspects of the Aggravation Factor in Disability" and "Traumatic Neurosis and the Malingeringer."

The Chairman of the Committee recommended that the membership of the Committee be expanded since successful clinics had been conducted in Jackson and Johnson City and it was suggested that representatives be added to the Committee from those areas. It was recommended in the report that the Committee be continued and its work kept active during the coming year.

### **Report of the Committee on Membership Expansion**

JOHN R. THOMPSON, JR., M.D., Chairman

"Pursuant to the resolutions passed by the House of Delegates of the Tennessee State Medical Association in convention April, 1954, at Nashville, the Board of Trustees appointed a Committee to study the expansion of the membership of the Tennessee State Medical Association. This Committee was composed of your President as Chairman, with the officers and the Chairman of the Council as members.

"A study of the Constitution and By-Laws of the Tennessee State Medical Association revealed that nowhere were restrictions placed on membership because of race, creed or color. So, it was decided that any individual certified by the component societies to the State Association would be acceptable as members.

"In August, 1954, two colored members were certified by the Giles County Medical Society and were accepted by the State Medical Association, and so certified to the American Medical Association. Since that time several other local component societies have accepted members of the colored race who are qualified and have certified these members to the State Medical Association. These have also been accepted and certified to the American Medical Association.

"Since in the opinion of this Committee, no further action is necessary, we pray the House of Delegates to discharge the Committee."



### Report of the Advisory Committee to Selective Service

OSCAR F. NOEL, M.D., Chairman

The report of this committee reviewed in detail the many facets of the doctor-draft law and stated that the principal activities of the committee were meeting the needs of the military services for the past year and working toward reducing, as far as possible, the inequities which had been found under Public Law 779.

It was stated in the report that the Tennessee State Advisory Committee to Selective Service is cooperating with the Tennessee State Medical Association's Placement Service in that all names of doctors being released from service, which are submitted by the Office of Defense Mobilization are being turned over to the Placement Service of the Tennessee Medical Association in order that locations might be found or suggested.

The report stated that from January, 1954, to the present date, the State Advisory Committee had recommended availability for approximately 125 doctors and essentiality for approximately 149 doctors. Fifty-four of the latter group were granted deferments to complete internships: forty-three for community needs and forty-five for research and teaching.

The report stated that at the present time, the National Administration has requested a two-year extension of the doctor draft law.

### Report of Liaison Committee to Tennessee State Dental Association

DAVID TAYLOR, M.D., Chairman

The report outlined the general meeting of the Liaison Committee of the TSMA and the Dental Association held just prior to the Annual Meeting of the Association. The following mutual problems were presented:

1. What is needed in the nature of Medical Society Cooperation in the statewide drive for fluoridation?
2. Cooperation between the two professions to present a solid front on the matter of the Doctor Draft Law.
3. Beginning now a two-year campaign to obtain an adequate appropriation for the Indigent Law so that indigent dental patients may be included when the treatment is given in the office of a DDS.
4. Closer cooperation on Washington legislation mutually affecting the profession.
5. Would regional or county cooperative society meetings be worth while?
6. The airing of referral problems.

7. Discussion of the acceptance of doctors of Dental Surgery to appear on public forums, radio and television programs with Medical Doctors to dispense vital information to the general public in matters pertaining to Dental Hygiene and care of the teeth as it affects general health.

8. Some large hospitals are not inviting qualified doctors of dental surgery to join their staffs.

The report stated that the first meeting was satisfactory and established some solid common grounds for dealing with mutual problems.

### SPECIAL REPORTS

#### Report of Woman's Auxiliary to Tennessee State Medical Association

MRS. W. W. HUBBARD, President

The report dealt with the membership of the Woman's Auxiliary to the Tennessee State Medical Association and the President outlined the many meetings and activities conducted by the Auxiliary during the past year.

The report stated that many local auxiliaries in the state were visited by the President and the President-Elect during the year. Administrative activities and projects were outlined as well as the manner in which money was raised for worthy projects.

The report concluded with an expression of appreciation to all members of the Tennessee State Medical Association who gave counsel and guidance to the Auxiliary during the year.

#### Report of the Delegates to the AMA

ROBERT B. WOOD, M.D., Chairman

The Chairman outlined in considerable detail the business transacted at the June, 1954, meeting in San Francisco of the House of Delegates of the AMA. The report explained the workings of the House of AMA and many of the discussions that were presented as well as a detailed explanation of some of the projects before the House.

The report stated that approximately 65 resolutions were introduced covering a wide variety of subject matter from non-service connected disabilities of veterans to such items as hospital accreditation, osteopathy, schools of nursing, hospital staff appointments, doctor draft, civil defense, etc.

The Chairman also outlined the activities conducted at the Clinical Session held in Miami in December of 1954. The details of this meeting are contained in the official files and are a matter of record in the headquarters office of the Tennessee State Medical Association.

# Minutes of the Annual Meeting of the Board of Trustees of the Tennessee State Medical Association—April 13, 1955

9:00 A.M.

## Read House Hotel Chattanooga, Tennessee

The Board of Trustees convened for its annual meeting with the following members present:

Dr. James C. Gardner, Chairman  
Dr. John R. Thompson, Jr.  
Dr. Carrol C. Turner  
Dr. R. N. Buchanan, Jr.  
Dr. Wm. J. Sheridan

Ex-officio members present were:

Dr. Charles C. Trabue, IV, President  
Dr. R. B. Wood, President-Elect  
Dr. R. H. Kampmeier, Secretary and Editor

Others present were:

Mr. J. E. Ballentine, Executive Secretary

I. The meeting opened with the Chairman calling the meeting to order and asking for approval of the minutes of the last meeting as mailed to members of the Board. It was properly moved, seconded and passed that the minutes be approved as mailed.

II. The first piece of old business disposed with was the approval of the mail vote taken since the last regular meeting, on the adoption of the Public Service Committee Budget for 1955. It was moved, seconded and passed that the Public Service Budget as submitted by mail, be approved for the year 1955.

III. New Business:

- (a) The Board approved the official audit of the Association's finances for the year 1954.
- (b) The financial statement for the 1st quarter of 1955, as submitted by the Executive Secretary, was adopted.

IV. The Board considered the following matters as a result of action taken in the House of Delegates.

1. A COMMITTEE ON CONSTITUTION AND BY-LAWS was established for the purpose of carefully studying the

Constitution and By-Laws and revising them where necessary, and to come to the meeting of the House of Delegates at the regular meeting in 1956 prepared to report on the study and proposed revision of the Constitution and By-Laws. The Committee appointed by the Board are as follows:

Dr. John R. Thompson, Jr., Chairman, Jackson  
Dr. J. B. Stanford, Memphis  
Dr. A. M. Patterson, Chattanooga  
Dr. Wm. A. Garrott, Cleveland  
Dr. W. N. Cook, Columbia  
Dr. J. Paul Baird, Dyersburg  
Dr. Oscar F. Noel, Nashville  
Dr. Walter D. Hankins, Johnson City  
Dr. Fount A. Russell, Clarksville

2. The Board approved \$1,000.00 to be donated as a gift from the Tennessee State Medical Association to the American Medical Education Foundation.
3. As directed by the House of Delegates through Resolution, the Board appropriated up to \$1,000.00 per year for the expenses of the President of the Association to be used for travel and otherwise at his discretion. He shall present an expense account and be reimbursed up to the \$1,000.00 maximum.
4. As directed by a House of Delegates Resolution, a committee was appointed to re-study the POSTGRADUATE EDUCATION PROGRAM. The discussion on this matter was led by Dr. R. H. Kampmeier who outlined a suggested type of program and discussed several types of plans that would, in his opinion, be an improvement and work well in lieu of the present Post-graduate Education program. It was Dr. Kampmeier's opinion that teams could be sent out into the ten areas

of the state now being covered, from the medical schools (Vanderbilt & U.T.) and it was his further suggestion that more up-to-date medical procedures occurring during the immediate preceding year could be given to physicians over the state, which would be much more beneficial than the present type of program. This matter was discussed in detail. The Board appointed the following Committee to study the matter and requested that it make its study by not later than June 1, 1955. The Committee is as follows:

Dr. H. L. Monroe, Chairman, Erwin  
Dr. Jno. B. Youmans, Nashville  
Dr. R. H. Kampmeier, Nashville  
Dr. F. L. Roberts, Memphis  
Dr. Ben L. Pentecost, Memphis  
Dr. W. A. Hensley, Cookeville  
Dr. Julian K. Welch, Brownsville  
Dr. Louis A. Killeffer, Harriman  
Dr. W. K. Owens, Pulaski

As directed by the House of Delegates the Board of Trustees were to appoint the POSTGRADUATE STUDY COMMITTEE and request the Committee to make its study and report to the Trustees by June 1, 1955. The Board of Trustees was instructed to call a meeting of the House of Delegates to act upon the Committee's recommendation before any changes in the present program were made. The present type of program will continue until the House takes some other action.

5. The Board discussed the membership of the Veteran's Affairs Committee and decided that this Committee should continue in its effective work. No appropriation was made for expenses inasmuch as no request had been made for such. As directed by the House, a motion was made by Dr. Thompson, duly seconded and passed to request Dr. H. H. Shoulders to continue as Chairman of the Committee on Veteran's Affairs.

V. Dr. Daugh W. Smith, Chairman of the Headquarters Building Committee reported to the Board. Dr. Smith presented a complete set of plans and material specifications to the Board for approval of the new

Headquarters Building to be erected in Nashville to house the offices of the Association. Dr. Smith discussed in detail the type of construction, maintenance and occupancy of the building. He outlined the plans for demolition of the present house on the site and the approximate completion date for the building. The motion was made by Dr. Thompson to approve the Committee's plans and directed that the Building Committee proceed with the contract for construction. The motion was duly seconded and passed. The bids received from contractors to erect the building had been received prior to the meeting and Dr. Smith reported upon the low bidder. The motion by Dr. Thompson also included accepting the low bid for construction. The Committee was instructed to award the contract to the low and best bidder. (Cost to be approximately \$37,000.00.)

VI. The matter of financing the building was discussed at considerable length. It was the opinion of the Board that the investments owned by the Association should be retained and a sufficient loan should be made to construct the building, using the income from the present investments to help pay off the loan. The Board moved that Dr. James C. Gardner, Treasurer and Chairman of the Trustees, with the Executive Secretary be authorized to borrow up to and not to exceed \$55,000 to construct the building. They were also authorized to investigate the best way to amortize this amount over a long period. Cost of the proposed office building will be approximately \$37,000.00. The amount authorized by the Trustees to be borrowed was sufficient to retire the present loan previously made to purchase the property, as well as to pay for the construction of the building and the cost for the architect. The Treasurer and the Executive Secretary were authorized to make this loan provided the money could be obtained at an interest rate of 4% and not to exceed 4½%. If the money could not be borrowed at this rate of interest, further instructions should be obtained from the Board of Trustees.

VII. Many of the problems faced by the Editor of the JOURNAL were discussed by Dr. Kampmeier. It was his suggestion



that the Trustees approve the appointment of an editorial board to consist of at least two or three members. Dr. Kampmeier outlined his ideas as to the duties of the Editorial Board. The Board of Trustees authorized the appointment of the Editorial Board and Dr. Kampmeier requested that the Editor's honorarium be reduced sufficiently to pay a reasonable stipend to the members of the editorial board. The Board of Trustees authorized Dr. Kampmeier to select the persons for the Editorial Board. This motion was made by Dr. Buchanan and seconded by Dr. Thompson after which it was adopted.

Dr. Kampmeier also asked release from the arduous work of proof reading scientific copy for the JOURNAL and the Board of Trustees delegated this work to be handled through the Headquarters Office and directed that Miss Rawls in the Headquarters Office be designated to handle the proofing of the scientific material contained in the JOURNAL. Mr. Ballentine was instructed to handle this matter through his office by the most effective means.

VIII. Dr. Trabue reviewed the policy of the Public Service Committee and the activities of the Director. Following the discussion, the motion was made by Dr. Thompson and seconded by Dr. Turner as follows: "It was moved that all staff personnel in the Headquarters Office will be the employees of the Tennessee State Medical Association and will not be divided into Departments or Special Committees. All staff members shall have a primary duty, but in addition the staff members will carry out any additional duties and instructions under the direction of the Executive Secretary. It is intended that the Public Service Director, who will be named to replace Mr. Bridges, will give his primary services to the Public Service Committee, but he will be called upon by the Board of Trustees and the Executive Secretary to carry out the duties of other Committees. All other activities will be the responsibility of the Executive Secretary and he will be responsible for the management of all office

activities and the direction of the Headquarters staff". This motion was adopted.

IX. At the request of the Tennessee Board of Nursing, the following five physicians were named, two of which will be selected by the Governor as advisors to the Tennessee Board of Nursing. The five physicians whose names are to be submitted are: Dr. Ralph O. Rychener, Memphis; Dr. James A. Loveless, Gallatin; Dr. Baker Hubbard, Jackson; Dr. Ralph H. Monger, Knoxville; and Dr. W. E. Scribner, Kingsport.

X. The Board approved \$75.00 per year to be used as dues to the Conference of Presidents of State Medical Associations.

XI. Approved a \$25.00 per month raise for Mrs. Hans L. Ragsdale, Secretary in the Headquarters Office. The raise to be effective April 15, 1955.

XII. The Board then went into the act of appointing Committees of the Association. The Committees were appointed, and the personnel of the Committees are attached to these minutes and are a part thereof.

XIII. Dr. Trabue requested the advice of the Board relative to the National Conference on Schools and Health. No action was taken and the matter was tabled.

XIV. The Board of Trustees directed that the Chairman of the Board write a letter of commendation and appreciation to Mr. Ed Bridges, Public Service Director who is resigning, thanking him for the outstanding work performed while in the service of the TSMA.

XV. The Board approved a salary increase of \$1,000.00 per year to Mr. J. E. Ballentine, Executive Secretary to become effective April 15, 1955.

XVI. Dr. Carrol C. Turner of Memphis invited the Board to be his guests for the semi-annual meeting in the fall of 1955. His invitation was accepted.

There being no further business to be transacted, the Board of Trustees adjourned at 4:00 p.m.

J. E. BALLENTINE  
*Executive Secretary*

## CLINICOPATHOLOGIC CONFERENCE

### St. Joseph Hospital, Memphis, Tenn.

DR. WILLIAM W. HURTEAU: The case for this evening is an interesting orthopedic problem. I will call on Dr. Howard at this time for the opening discussion.

DR. WILLIAM T. HOWARD: R. R., a female, 36 years of age, sought medical advice because of swelling in left knee. Four months prior to admission she fell, striking her left knee near the joint. Following this the knee was swollen and painful just below the joint. A local physician advised a support for the knee, but it did not respond to treatment and she fell again one month later. The knee has been somewhat painful to motion and while she is able to walk on it, she limps greatly. There is a history of about 20 pounds of weight loss in the last 4 months. Otherwise, a review of systems is negative. She has had four normal pregnancies with the last one eight years ago.

Essential *physical findings* revealed a well developed, well nourished white woman, alert and cooperative. There was enlargement in the area of the left lateral condyle about 4 to 5 inches in diameter. This appeared to be incorporated in bone and not fluctuant, slightly tender to pressure and the skin over area did not appear discolored. No swelling or stiffness was noted.

Essential *laboratory findings* revealed a Hgb. of 12.7 Gm., RBC of 4,420,000, WBC, of 10,600, normal differential and serology negative. Urinalysis was negative, NPN 40 mg.%, alkaline phosphatase 1.55 Bodansky units, acid phosphatase 0.25 Bodansky units.

*X-ray examination* showed an expanding tumor of bone involving the lateral tibial condyle. There was destruction of normal bone substance and the tumor mass had septa within it. The cortex was very thin and on the lower aspect appeared to be destroyed.

*Operation.* At exploration a tumor mass measuring approximately 8 cm. in diameter was found occupying the proximal end of left tibia and extending to the subcutaneous area on the lateral aspect of the left leg. This tumor was very fleshy. A biopsy was taken. Following biopsy a curettage was carried out. The patella was excised and turned cartilage side superiorly where a portion of the tibial plateau articular surface had to be sacrificed. The cavity was packed very tight with bone chips.

The postoperative course was uneventful.

In orthopedics we rely heavily upon the pathologic diagnosis to guide us in treatment. In making a diagnosis of a bone tumor, I feel that the history and physical

examination account for about 15 or 20 per cent of our knowledge. A laboratory should not figure more than 5 per cent and the X-ray would probably range between 20 and 30 per cent. The pathologist furnishes us at least one-half of the information, and his opinion and help are worth all the other combined. With that in mind, I will proceed to list from the information presented those things I think are of importance in arriving at a differential diagnosis as far as the actual pathology in this case is concerned.

In the history, it appears that this woman was 36 years of age. This is significant because of a definite age incidence for certain types of bone tumor. We thus must be on the lookout for a type of tumor which might appear during the third decade. Another important point in the history is that pain is not an outstanding symptom. The history specifically states that the patient went to the doctor because of swelling and it would appear that this swelling had been present for four months before an X-ray film was obtained. Patients who are suffering severe pain do not wait four months before obtaining an X-ray. We feel there is a definite relationship between the amount of pain and the degree of malignancy. For example, osteogenic sarcoma and other highly malignant tumors of bone characteristically give rise to a great amount of pain. Osteochondromas, and other benign tumors, characteristically give little pain. The relative absence of pain in this case would tend to make us feel that we are dealing with a benign lesion.

One point in the history is confusing. There is a history of some 20 pounds weight loss during four months. Considering possible malignancy, this fact may be important. It does not tie in with the fact that the examination revealed the patient to be well-developed and well nourished, and that her red blood count and hemoglobin were normal. The patient does not appear to have been emaciated or cachectic. In other words, I believe that this is one of those so-called red herrings every case presents, and I shall ignore the fact that this patient has suffered recent weight loss as being non-contributory. I hope that I do

not have to regret ignoring what may be a strong clue in this case.

The physical examination tells us little except that the patient had a large tumor on the outer aspect of the left knee. This involved the upper tibia. I think that the location of this tumor is important. Tumors as a rule follow a trend in regard to their location. I believe that all will agree that the laboratory findings are normal.

With reference to the X-ray examination, Dr. Cara has suggested that since they are such an important part of our effort in making a diagnosis, I discuss them rather than leaving this part for him. (Fig. 1.) The preoperative film reveals a lesion in the upper outer tibia. It is a destructive lesion having destroyed considerable of the bone substance. It also is an expanding lesion since the bone is much wider here than would normally be found. A characteristic trabeculation appears in this tumor and this can be referred to as the so-called "soap-bubble" appearance.

We notice that the tumor was biopsied and a fleshy material was obtained. This

biopsy was done for the purpose of making a diagnosis in order to properly treat this patient. I think that the fleshy appearance of the tumor is significant. In the final paragraph we note that an amputation was not performed. In definitely malignant tumors it is customary to amputate rather than to reconstruct. In this particular case it is found that the tumor was removed in so far as possible and the patella was used in the reconstruction of the defect. The patella was not chosen because it was a supply of bone, since other portions of the body are more suitable for this. The reason the patella was chosen is because of its articular surface. This articular surface when turned upward makes a very nice replacement for the loss of the articular cartilage of the tibia which was sacrificed in the removal of this large tumor. It would therefore appear that the surgeon anticipated a recovery on the part of this patient rather than death and hence was of the opinion that this was a benign tumor.

The features which I have pointed out point so definitely in the direction of one



FIG. 1-A. Giant cell tumor of the tibia, in the epiphysis, expansion destroying normal bone, bony septa within the tumor.



FIG. 1-B. Postoperative film. The tumor has been curetted out, bone chips and two Knowles pins anchor the patella in place; the articular surface of the patella is directed upward to articulate with the femur.



clinical diagnosis that I am choosing to put all my eggs in one basket, so to speak, and call this a *giant cell tumor*. The following things are significant. This lady was 36 years of age. Authorities state that 40 percent of giant tumors appear within the third decade. The relative absence of pain fits a benign tumor of this type. The giant cell tumor has a strong predilection for three sites,—the lower radius, the lower femur and the upper tibia. The negative laboratory reports fit into the diagnosis. The X-ray examination is typical of a giant cell tumor,—The destruction, expansion and "soap-bubble" appearance within the tumor are characteristic. At the time of surgery the tumor was described as being fleshy,—the usual textbook picture. Blood-good described this tumor as resembling an "old bruise." Others have stated that it is friable like cheese, and still others have stated that it is spongy in nature and bleeds when it is squeezed. Finally, the treatment, namely curettement and packing with bone chips, is that commonly employed in the treatment of so-called benign giant cell tumor.

Other things, of course, come to mind, as the solitary cyst, osteogenic sarcoma, and other entities. But, all findings point so well in the direction of benign giant cell tumor that I feel that this should be my first choice in this case.

DR. WILLIAM W. HURTEAU: Dr. Howard is quite right in his diagnosis, it is that of giant cell tumor. Before discussing the pathologic findings in this case, I would like by way of orientation to briefly review the problem of giant cell tumors. This tumor while easy to diagnose histologically, continues to be a problem of considerable magnitude from a standpoint of prognosis and best management of the patient. Until recent years the subject of giant cell tumors was a very confused one because any bone lesion with giant cells was included as a giant cell tumor. Many bone tumors have giant cells such as nonosteogenic fibroma, bone cysts and benign chondroblastoma. Only in recent years, giant cell tumor has been properly defined and selected from this general large grouping. It is not to be confused with the giant cell tumor of tendon

sheath which is a benign lesion and may be an irritation phenomenon. By definition giant cell tumor of the bone is a distinctive neoplasm arising from the connective tissue of the bone marrow. In the past the giant cells, which are the conspicuous part of the lesion, have been over-emphasized whereas actually it is the stromal component which is the most significant.

As Dr. Howard has already said, if a patient is under 20 years of age one must be very hesitant in making a diagnosis of giant cell tumor as it usually occurs in an older age group. The problem of management of giant cell tumors is made all the more severe because of the usual location on the joint bearing surface of the knee, either the lower end of the femur or the upper end of the tibia. The pathologist is often asked whether a given neoplasm is benign or malignant. Giant cell tumor of the bone is an example of a neoplasm that runs the gamut all the way from a benign neoplasm to a malignant lesion which is capable of metastasis. Jaffé and Lichtenstein have found that roughly 50 percent of the giant cell tumors of bone run a benign course. The remaining are very prone to recur and approximately 15 percent are capable of metastasis to the lung and behaviour of a malignant neoplasm. Unfortunately malignancy usually becomes apparent only after one or two local recurrences. Because giant cell tumors can follow either a benign or a malignant course, Jaffé and Lichtenstein have graded these tumors on the basis of grades 1, 2 and 3. In this classification the grade 1 is the tumor which is perfectly benign, whereas grade 3 is the malignant sarcoma. The histological grading is based mainly on the degree of cellularity and atypism of the stromal cells.

In a low power view of the neoplasm in this case (Fig. 2) we note that the giant cells are most conspicuous. They are large cells with anywhere up to 20 nuclei; in this field the giant cells are scattered rather evenly. More important, however are the stromal cells making up the matrix of the tumor; the stroma is moderately densely cellular and it should be noted that the tumor is rather richly vascular. In the high power view we note that the stromal cells are

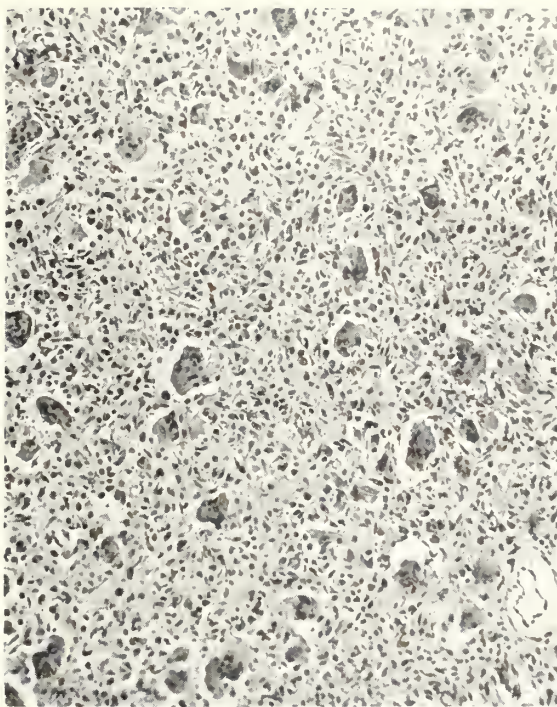


FIG. 2-A. Low power.

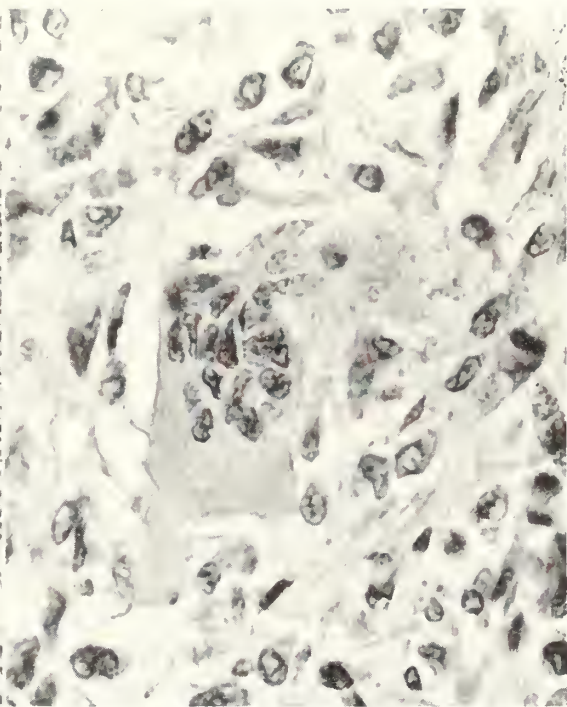


FIG. 2-B. High power.

much more compact, compressing one another and densely cellular. The stromal cells are oval, fairly large, have prominent nucleoli. Atypical so-called "smudge" cells are present in which the nuclei are very hyperchromatic, large, irregular and the cytoplasm is scanty. These bizarre shaped nuclei are found in scattered areas. Mitotic figures likewise are present, but they are not bizarre, and they are not great in number. In these areas of increased cellularity the giant cells are fewer in number. The areas of increased cellularity and atypical nuclei would put this lesion into a Jaffé, grade 2. It is to be emphasized that in some areas the picture is that of a grade 1 or perfectly benign lesion, while in other areas it is of a grade 2. Because of this local recurrence may very well occur.

Dr. Scott Gilmer has seen this case in consultation and concurs that this is a Jaffé, grade 2, giant cell tumor and recurrence may be expected. He also carried out acid phosphatase enzyme studies on this tissue and found that the tumor reacted similarly to other giant cell tumors. The acid phosphatase is present in the stromal cells and this is the only primary bone tumor in which this is true. (However, the enzyme is

present in metastatic carcinoma of the prostate.)

DR. D. J. CARA: I think that Dr. Howard has given an excellent discussion of this case and has covered the differential diagnosis and the radiographic aspects of this tumor sufficiently, so I am going to direct my comments entirely toward the treatment of the giant cell tumor. I am going to try to point out the pros and cons for the treatment of giant cell tumor with irradiation versus surgery.

A general statement can be made that there is no agreement at the present time as to whether this tumor should be treated entirely by means of radiation or entirely by surgical methods. There are extremists on each side and we therefore find that there are some who would treat all of these tumors by radiation and others who would use surgical resection for all accessible giant cell tumors regardless of the size, location or extension of the process. Such a divergence of opinion indicates that neither extreme view is correct and that there must be cases suitable for irradiation therapy only and others which are best treated by surgical resection. Cutler, Buschke, Cantlil and Portmann have made the most un-



favorable comparison of surgery to radiation in the treatment of this tumor. They state that surgery results in impaired joint function and is associated with a recurrence rate of 25 to 30 per cent. Radiation on the other hand respects the capsule of the tumor, eliminates the danger of infection, and has less unfavorable effect on function. They also state that it possesses at least as high a cure rate as surgery and accomplishes a cure in almost all patients when adequate dosage is used.

Geschickter, Bloodgood, Phemister and Coley prefer surgery as the definitive method of treatment when the lesion is accessible. They point out the dangers of irradiation in the treatment of this lesion. Pathologic fractures in the area of the irradiated bone occur. Late sarcomatous changes in the irradiated bone are reported. Radiation necrosis of skin at a later date is encountered. They doubt that irradiation preserves the function of a joint any more than surgery, and that the patient is disabled for too long a time during the period of radiation treatment.

Perhaps the surgeons are so critical of the effects of radiation therapy because they are comparing the results and effects of radiation therapy as it was used 25 to 30 years ago, when massive irradiation was used with little regard to accuracy or uniformity of dose. It is agreed that results were probably poor during that era. However, in this day and time with the improvement in apparatus and with the ability to deliver a definite tumor dose, it is thought that radiation therapy results are very favorable and that there are cases which are suitable for irradiation treatment.

I personally feel that there should be no great disagreement between the radiation therapist and the surgeons in the treatment of these cases. I think where a tumor is readily accessible, as in the bones of the hands and feet, the fibula, ribs and possibly the radius or ulna, that the tumor should be surgically excised since it will result in an immediate complete cure. It also gives the pathologist a complete tumor for histologic study. On the other hand where the tumor involves the vertebral column or pelvis, or is located near a weight-bearing

joint, I feel that irradiation therapy is preferable to surgery. Before irradiation is given there should be histologic proof that the tumor is benign, and this histologic report should come from adequate biopsy material. In some areas in the spine and pelvis biopsy may be somewhat difficult. Where there is destruction in the cortex of the involved bone caution should be exercised in accepting these patients for radiation therapy since this finding is highly suggestive of a malignant bone tumor. Some benign giant cell tumors will destroy cortex, and it is for this reason that the histologic report is so definitely requested.

In this particular case, histologically there was some doubt that this was benign tumor. Radiographically there was destruction of bone cortex which might be indicative of malignancy, and therefore I concur in the decision that surgery is the treatment of choice. However, since Dr. Hurteau classifies this as a grade 2 and recurrence is to be expected, I would like to raise the question as to whether curettement is all that was necessary in this case or whether amputation is the treatment of choice. I would like to add this comment that the time to cure a malignant tumor is when the lesion is early and when it is treated the first time. To wait for recurrence or metastases is to invite criticism and is certainly not in the best interest of the patient.

DR. HURTEAU: In opening the case for general discussion, I would like to raise two questions. I would like to ask Dr. Howard and Dr. Cara to clarify one point in their discussion as to whether or not a definitive diagnosis of giant cell tumor can be made by radiologic diagnosis. The second question is brought up to stimulate discussion, and the question is,—since this is a Jaffé, grade two and recurrence is expected, has the management to date been correct?

DR. GOTTEN: If there is any doubt in one's mind as to whether or not this is a malignant tumor why wait for it to return, why not amputate?

DR. HAWKES: Is there any known time relationship between recurrence of the tumor and occurrence of metastasis? That is to say, would there be time for amputation after signs or recurrence appear?



DR. HARDIN: Why not give postoperative irradiation?

DR. HOWARD: In response to Dr. Hurteau's question as to whether or not a definitive diagnosis of giant cell tumor can be made by the x-ray, I would like to say a resounding "No". I think that the x-ray can give us a presumptive diagnosis, but a positive diagnosis can be given only by the pathologist. The opinion of the pathologist is worth everything else combined in a case such as this. With reference to Dr. Hurteau's second question, it is my opinion that this patient has been well treated as we understand this lesion at the present time. If it had been frankly malignant, of course, we would recommend amputation. Under the circumstances I feel that the surgeon has done very nicely. The tumor appears to have been well removed, the cavity has been filled with bone chips and the x-ray appearance is quite satisfactory. I am sorry that the operating surgeon is not here tonight because I feel that he should be complimented upon the surgery which has been performed in this case.

DR. CARA: In reply to Dr. Hurteau's question, I think that one can be fairly certain of a diagnosis of giant cell tumor radiographically. One can suspect malignant changes in such a tumor when there is rapid growth with destruction of cortex and the presence of pain. However, the proof of the presence of a benign or a malignant lesion is in the interpretation of the microscopic sections and is therefore a histologic diagnosis. This is why we like to stress the word "adequate" when we speak of biopsy material for the microscopic diagnosis in these cases.

DR. HURTEAU: I am glad to hear that both Drs. Cara and Howard agree on this point. As we have seen in the sections in this case, giant cell tumors in some areas may appear very benign, of a grade 1, while in other areas, the appearance is that of a grade 2. In other words a tissue biopsy is necessary not only to establish the diagnosis, but to attempt to establish the grade of malignancy. It is in this respect that the pathologist needs the entire curetted material to properly evaluate the tumor. No matter what one's opinion is of ultimate

therapy, tissue biopsy is first required.

In answer to Dr. Gotten's question, I personally would not recommend amputation. This is a Jaffé, grade 2, and if we amputate for all of these we would be amputating a lot of giant cell tumors. The only question I would raise would be one of complete excision of the tumor. I would like to ask Dr. Howard if joint fusion would have been better to accomplish excision? I raised the original question to stimulate discussion. As far as the time relationship between recurrence of the tumor and occurrence of metastasis, it is unfortunate that the grade 3 or frankly malignant giant cell tumors do not become manifest until after one or more recurrences. In general, however, the giant cell tumor is a slow growing neoplasm.

DR. CARA: In reply to Dr. Hardin's question, "Why not give postoperative radiation?" I would like to state that in the hands of both the surgeons and the radiation therapists a combination of radiation treatment and surgery has always given poor results. Combined therapy is therefore contraindicated if we can believe what is reported in the literature. Perhaps the reason for the poor results is that where the tumor is curetted, a certain amount of bone substance is removed, the underlying supportive structures including the vascular bed are reduced, and the added insult of irradiation further reduces the vascularity at the operative site so that the incorporation of bone chips is delayed or prohibited. If irradiation is going to be used, it should be instituted without surgical curettement or resection.

In reply to Dr. Alley's question about the combination of surgery and postoperative x-ray therapy for giant cell tumor similar to the treatment of carcinoma of the breast, I would say that in the treatment of carcinoma of the breast postoperatively we no longer treat the breast site since the surgeon is supposed to remove the primary tumor, but we direct our therapy to the node bearing areas of the breast, namely, the axilla and the supraclavicular regions. If one were going to proceed with the radiation treatment of the giant cell tumor after resection one would be required to deliver

just as high a radiation dose as if the tumor had not been operated upon initially. If this type of treatment is contemplated x-ray therapy alone would accomplish just as much.

DR. HOWARD: The answer to Dr. Gotten's question seems to me to lie in the issue of just how malignant this tumor is. If we amputate every suspicious tumor we will certainly condemn many people to artificial limbs who may walk on practically normal extremities. I also think that it would be extremely difficult to sell this woman on the idea of amputation at the present time. She feels that her leg has been corrected and that she can now expect a healthy leg. To bring her back at this date and take a leg off would be quite a job of salesmanship.

I regret that I cannot contribute anything toward answering Dr. Hawkes' questions. I have not had sufficient experience with this tumor to know how long the period of grace might be following reactivation of the tumor and general spread. I feel that the x-ray changes and the amount of pain and the enlargement which the patient may suffer would guide one in performing an amputation. As I have emphasized before, pain in bone tumors is suggestive of malignancy, and this should influence us strongly.

Judging from the literature, there seems to be an impression which is rather wide spread that irradiation and surgery frequently aggravate these tumors and may increase the degree of malignancy. It would seem that authorities feel that radiation, particularly in smaller doses, might stimulate further growth and do more harm than good.

Dr. Hurteau has suggested complete excision of the tumor and sacrifice of the knee joint with a fusion. This suggestion is well taken, but is associated with many difficulties. One of these is the extensive resection which would be required. Several inches of the tibia would have to be sacrificed which would mean that we would be anticipating a limb several inches shorter than its mate. In addition to this a stiff knee is an operation which is unpopular with the patients. The longer they go around with a stiff knee the more unpopular the

surgeon becomes with them. It is not hard to imagine sitting in a movie and having people constantly passing back and forth over your stiff knee. It is a poor operation. Under ideal circumstances this operation gives rise to a considerable disability in the lower limb so that the disability following an amputation would not be much greater. On the basis of the x-ray alone, which is all I have to guide me, I feel that the surgeon in this case has done a good job of excising the lesion.

DR. MARCUS J. STEWART: Mr. Chairman, Dr. Howard, Gentlemen:—First, I would like to answer two questions: One raised by the pathologist and one by the roentgenologist. Dr. Hurteau has asked why not excise the knee joint and remove all involved tissue of the upper end of the tibia and do a knee fusion. In my opinion, that is not necessary because giant cell tumors do not invade cartilage. Thus, the articular cartilage of the upper end of the tibia has not been involved by this tumor and the joint surfaces per se are undoubtedly normal. Therefore, if one removes all the tumor from the tibia and fills the defect with iliac or other cancellous bone it will heal and one can have a joint which will function satisfactorily. I have seen similar joints working 12 years after this type of surgery.

Dr. Cara suggested that more of these tumors might be treated by x-ray. It is common knowledge that you cannot diagnose destructive bone lesions by x-ray films alone. They demand biopsy and microscopic examination. If you are going to do a biopsy and you are dealing with a giant cell tumor which lends itself to excision and bone replacement why not proceed with this at one sitting and not resort to the uncertainties of x-ray therapy. The wisdom of radiation treatment for any benign tumor which can be handled by other means is questionable. The problem of over-dosage is present, although, it is not a dangerous factor in modern therapy. A far more serious problem is the likelihood of late malignant degeneration. There is ample evidence, both experimentally and clinically, that exposure to roentgen radiation can produce sarcomatous changes in a

previously benign tumor or even in normal tissue. Hatcher, in 1945, collected reports of 24 such occurrences and added three of his own. Cahan, in 1948, reported 11 cases from Memorial Hospital, and of these nine had been previously diagnosed giant cell tumor.

However, if roentgen-therapy is to be used it must be kept in mind that following treatment there is a period of time during which the tumor appears to increase in size and activity. The doctor must not, therefore, become excited over this phenomenon and let himself and his patient in for some further unnecessary treatment. Second, a giant cell tumor which has been subjected to radiation heals by fibrosis and gradual ossification within its mass. There is little or no change in the cortex. While those treated by curettage, heal by condensation in the cortex first, thus, strengthening the cortex and rendering the patient less susceptible to pathologic fracture in the early stages. Jaffé's classification of giant cell tumor into grades 1, 2, and 3, includes those tumors which used to be called malignant variants of giant cell tumors. A true giant cell tumor, in my opinion, will not recur unless molested by radiation, inadequate surgery, or trauma.

In reviewing our cases we found that the smaller the number of giant cells, the smaller the giant cells and the fewer number of nuclei the more likely the recurrence. Lenton Johnson of the Army Institute of Pathology in Washington, states that if the tumor shows any indication of the formation of osteoid tissue, then you can expect it to recur and become malignant. The tumor under discussion here, judging from the slides we have seen, suggests a Jaffé type 2. The giant cells are small and have few nuclei, the stromal cells are anaplastic, and from that standpoint, I think, we may anticipate a recurrence. Whether or not we have seen any osteoid

tissue in the slides is questionable. I think a more detailed study and look for osteoid tissue is in order.

It is common knowledge that x-ray therapy in the young or "teen-age" individuals will arrest epiphyseal growth, therefore, it cannot be used until an older age. X-ray therapy cannot eradicate a giant cell tumor as well as surgical extirpation. Therefore, I believe that x-ray should be reserved for those tumors which are inaccessible, as in the spine. Surgical excision with curettage, cauterization and bone graft replacement remains the treatment of choice whenever possible.

We reviewed 191 giant cell tumors from the records of the Campbell Clinic. After setting up a strict criterion for diagnosing giant cell tumor, we had only 41 cases who met the rigid radiologic and pathologic criteria. From this group seven did not follow a true clinical course. Therefore, we saw only 34 cases over a period of 20 years. During a similar period there were 46 solitary bone cysts and 211 bone sarcomas, treated at the Campbell Clinic. This gives us a ratio of about 5:1. Sir Harry Platt of England states that these tumors are seen in England on the average of about one per hospital per year. As Dr. Howard has pointed out this tumor occurs more readily around the knee than any other place. The majority are found in the distal femur, proximal tibia, distal portion of the radius and proximal portion of the humerus. At Memorial Hospital in New York, Dr. Coley found 66 out of 124 occurring around the knee.

According to the information which has been divulged up until this time, I feel that the surgical treatment of this lesion has been quite in order and proper. However, we can anticipate recurrence, and at the time of recurrence I believe amputation will be necessary.



## President's Letter



DR. TRABUE

Five years ago this month was a fateful time for the Tennessee State Medical Association. First, the House of Delegates met in special session and launched the Association into a program of Public Service. Dues were

raised and the Board of Trustees were instructed to employ a layman to act as Public Service Director and Field Secretary, and also to appoint a Public Service Committee with at least one representative from each of the ten districts of the State. The Committee was immediately appointed with Dr. L. W. Edwards as Chairman and the wisdom of this choice has been manifested by his great leadership. The Association was most fortunate in employing Mr. Ed Bridges, a man with a wide background of public relations and newspaper work, to fill our newly created post.

That was five years ago and it is stimulating to pause and consider the changes that have taken place in our Association and many of its component societies during this interval. To list the accomplishments of the Committee during this time would be most impressive but our space on this page would allow only a beginning. Even the abstract of the committee report, which is printed elsewhere in this issue, does not give the full story. To evaluate the impact of this Committee and of Mr. Bridges one would have to measure the influence of their work on the 2,400 members of our Association, and on the 49 component societies, during the past five years. Do we not each have a far better concept of our opportunities and obligations in the field of public service than we had five years ago? Think of our improved relations with the press, labor, insurance companies, and dental and legal professions, the Farm Bureau, County Courts, the Legislature, the P.T.A., the Nurses Association and, in short, with the public.

It seems to me that five years ago we were traveling a selfish route. Individually many doctors were doing their best to counteract the criticisms being leveled at us; but as a group and as an Association we were losing ground in the public esteem. Our approach was too much on the negative side—fighting the things that we did not like—such as socialized medicine. It remained for the P. S. Committee and the P. S. Director to point the way and take the lead. And now, as a direct or indirect result of their work, we can take pride in our Indigent Hospital Act, our prepaid Insurance Program, the work of the Tennessee Medical Foundation, Medical Forums for the public, the placement of doctors in rural communities and many other positive programs which render an unselfish service to the public. The doctrine of public service has spread to the many committees which have carried on these good works.

Now after five years Ed Bridges is leaving us to enter another field of public service—with the Polio Foundation. We say goodbye to Ed with mixed emotions: of joy for his promotion, of sadness in losing him from our own organization, but our strongest emotion is one of thanks for the vision that he has given us of the real meaning of Public Service. Godspeed, Ed.

What of the future? There can be no question. A subcommittee has already interviewed several applicants. When the applicants have been screened the entire P. S. Committee will meet and make its recommendations to the Board of Trustees who have already signified their intention of supporting this Committee in the future as in the past. With the knowledge gained in this past five years the work of the Committee should be even more productive in the next five. The work of the Committee will never be finished. There will never be an end to public service for our Association. The horizons are unlimited!

# THE JOURNAL

OF THE  
TENNESSEE STATE MEDICAL ASSOCIATION

Published Monthly  
Devoted to the Interests of the Medical Profession of  
Tennessee

Office of Publication, 321-325 Doctors Building, Nashville,  
Tenn.

Acceptance for mailing at special rate of postage provided  
for in Section 1103, Act of October 3, 1917,  
authorized July 15, 1932.

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University Hospital, Nashville 4, Tennessee  
Address organizational problems to Jack E. Ballentine,  
Executive Secretary, 321-325 Doctors Building, Nashville  
3, Tenn.

Address Public Service problems to Ed Bridges.

R. H. KAMPMEIER, M.D., Editor and Secretary  
Vanderbilt University Hospital, Nashville

## COMMITTEE ON SCIENTIFIC WORK

|                            |                             |
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| R. C. KIMBROUGH, JR., M.D. |                             |

May, 1955

## EDITORIAL

### THE ANNUAL SESSION OF 1955

The one hundred and twentieth session of the Tennessee State Medical Association was a successful one measured in several ways. It had a registration of over 600 physicians.

This issue contains an abstract of the proceedings of the House of Delegates. The House carried out its duties in a business-like manner, under its efficient speaker, Dr. Robert Buchanan. It was notified of the financial support given by recent legislative action to the bill for Hospitalization of the Indigent. Though the money granted was not of the amount the Public Service Committee requested, it will probably do as a beginning. The county judges will need to be stimulated by the doctors to make use of this instrument for the better care of the indigent. The Delegates were told of the successful passage of the autopsy bill sponsored by the Association in the past two sessions of the legislature.

The Chairman of the U.M.W.A. Liaison Committee could report with pride upon the

commendation given the Tennessee State Medical Association at the Annual Conference on Medical and Hospital Problems in the Bituminous Coal Mining Area, in Charleston, West Virginia. We are the one state medical association to take aggressive action in the provision of adequate medical care in substandard areas. The Medical Foundation of the Association likewise could report continued activity in aiding communities in problems of medical care.

The insurance committee presented continuing problems of the Tennessee Plan, which is growing however, and continues to provide at least a partial answer to the problems of medical costs. The difficulties inherent in extending the plan to the fields other than the surgical were indicated.

Mr. Ed Bridges, who has served so well as Public Service Director, informed the House of his resignation. His abilities have led to bigger and better things.

As Chairman of the Committee on Scientific Work your Editor finds himself well pleased with the program. The Committee presented a good solid program for the General Sessions of postgraduate level and introduced a panel discussion for the first time. The General Sessions were well attended from the first paper to the last presentation.

Your Editor also wishes to thank the secretaries and program committees of the thirteen specialty groups which held meetings at the Annual Session.

From several standpoints then, the 1955 Session was one of the most successful meetings ever held by the Tennessee State Medical Association.

R. H. K.

### ERRATUM

48: 134 (April)

Under spinal anesthesia should read,—  
*Pontocaine* instead of *Procaine*.

## DEATHS

Dr. Obe Atha Kirk, 70, Linden, died March 30th at his home, from a heart attack.

Dr. A. D. Miller, 85, died at his home in Vermont Community on April 2nd.

**Dr. Sidney S. Evans**, 64, Ripley, died April 6th at Baptist Hospital in Memphis.

**Dr. O. W. Fleming**, 79, Big Sandy, died March 18th at the Henry County General Hospital in Paris.

**Dr. James H. Dyer**, 79, Wartrace, died April 4th in Nashville.

**Dr. Walter D. Farrow**, 85, Dyersburg, died March 19th at his home.

## PROGRAMS AND NEWS OF MEDICAL SOCIETIES

### Chattanooga and Hamilton County Medical Society

The Society held its Annual Meeting on April 7th and the program consisted of a panel discussion on "Disease of Liver and Biliary Tract." Participants were: Moderator, Dr. Merton Baker; surgical aspects, Dr. Edward T. Newell, Jr.; medical aspects, Dr. Robert W. Myers; X-ray, Dr. Charles W. Heavis; pathology, Dr. David J. Stump.

### Roane County Medical Society

The Society held its regular meeting in the Oak Ridge Hospital on March 29th. The program consisted of a paper entitled "Physical Diagnosis of Fluid and Electrolyte Problems" by Dr. James L. Southworth of Knoxville.

### Nashville Academy of Medicine and Davidson County Medical Society

The Society held its regular dinner meeting on April 19. The members were the guests of the Staff of the Central State Hospital. Dr. W. G. Kennon, Jr., gave a report of the actions of the House of Delegates to the Tennessee State Medical Association.

Dr. O. S. Hauk spoke on "What Are We Doing on Mental Health?"

### Bradley County Medical Society

The Society met in a called session at the Bradley Memorial Hospital on March 16th. Dr. Charles S. Heron presided at the meeting which was called for the purpose of considering the participation of the members of the Medical Society in the 1955 Poliomyelitis Vaccine Program.

### McMinn County Medical Society

The Society met on March 24th at the

McMinn County Health Center to discuss participation of the practicing physicians in the 1955 Poliomyelitis Vaccine Program.

### Consolidated Medical Assembly

The Society held its regular dinner meeting on April 5th at the New Southern Hotel. Dr. D. S. Pankratz, dean of the Medical School at University of Mississippi, spoke on "Medical Education in the Southern Region with Special Reference to Tennessee and Mississippi." Dr. Jack Crowell, of the Department of Physiology at the University of Mississippi, had for his topic "Etiology of Shock."

### Knoxville Academy of Medicine

The Society met on April 19th and the following program was presented. Interesting Case Report—"Fracture of Zygoma and Orbital Wall" by Cecil Pitard, M.D. Interesting Case Report—"Causalgia—Treated with Chlorpromazine (Thorazine)" by C. Harwell Dabbs, M.D. "ACTH and Cortisone in the Treatment of Skin Disease" by Richter Wiggall, M.D.

## NATIONAL NEWS

### Military Medical Bills

Action is due shortly on three of the military medical bills. The House Armed Services Committee has tentatively scheduled hearings for the week of May 9 on the Doctor-Draft Extension, Military Medical Scholarships and a new Medical Care Program for Military Dependents. The latest word is that the House will act next week on the Mental Health Survey Bill.

### New Medal for Dr. Salk

With Congress hurrying action on a civilian medal of which he would be the first recipient, Dr. Joseph Salk was a recent White House guest to accept an official citation from President Eisenhower. Meanwhile, Congress has been flooded with bills in one way or another concerned with the vaccine. Additional bills along the same lines are expected to be introduced.

### Health and Science Legislation

Chairman Priest (D., Tenn.) of the House Interstate and Foreign Commerce Committee has named a subcommittee to handle health and science legislation, with himself as chairman.



Other Democrats on the committee are Representatives F. Ertel Carlyle, North Carolina; Kenneth Roberts, Alabama; Martin Dies of Texas; Tobert MacDonald of Massachusetts; and Don Hayworth of Michigan. Republicans are Representatives Charles Wolverton, New Jersey; John W. Heselton, Massachusetts; Richard Hoffman and William Springer, both of Illinois; Joseph L. Carrigg of Pennsylvania; and Steven Derounian of New York.

## MEDICAL NEWS IN TENNESSEE

### Smith Hospital Open to County

The State Supreme Court recently reversed and remanded a chancery court holding and ruled that Smith County Hospital, Carthage, is available to all physicians of the County.

The opinion from Supreme Court said: "After the lease was executed, the lessees refused to allow certain doctors to perform operations in the hospital. The lease contract under which they operated provided that the lessees would allow the other doctors in Smith County the use of the hospital 'for the treatment of their patients.' Our conclusion is that the hospital, being a County Hospital and owned by the County that the meaning 'for treatment of their patients' is that this includes operation on patients of the various doctors of the county who need the hospital for this purpose."

### Vanderbilt University School of Medicine

Dr. Richard Cannon, director of Vanderbilt University Hospital, has announced that a Cobalt Machine, one of the top medical weapons in fighting Cancer, will be put into operation at the hospital by the end of April.

### University of Tennessee College of Medicine

Another big step in the University of Tennessee Medical Units expansion program is to get under way. It is the remodeling of the Wittenberg Building. The work is expected to cost approximately \$400,000.

### Fourteen West State Hospitals Put on Accredited List

Fourteen Tennessee hospitals have been added to the "fully accredited" list by the

Joint Commission on Accreditation of Hospitals. They are: the Jackson-Madison County General Hospital at Jackson, Western State Hospital at Bolivar, St. Mary's Hospital at Humboldt, and ten hospitals in Memphis—Baptist Memorial, Campbell Clinic-Hospital, City of Memphis Hospital, Gartley-Ramsay, Hospital for Crippled Adults, Le Bonheur Children's Hospital, Memphis Eye, Ear, Nose and Throat Hospital, Oakville Memorial Sanatorium, St. Joseph's and West Tennessee Tuberculosis Hospital. Previously accredited in West Tennessee is Methodist Hospital in Memphis.

### Lawyers and Doctors in Joint Meeting

The Memphis and Shelby County Medical Society and the Memphis Bar Association recently conducted a Medico-Legal Clinic where approximately 400 lawyers and doctors attended.

The program consisted of a series of short talks on subjects of mutual interest to both doctors and lawyers. A question and answer session was also held.

### Southern Region, American College of Gastroenterology

The Southern Regional meeting of the American College of Gastroenterology was held at the Peabody Hotel in Memphis on April 24th. The Southern Region of the College includes Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas and Virginia. Five Memphis physicians participated as speakers. They were: Dr. E. C. Campbell, Dr. N. E. Rossett, Dr. Henry G. Rudner, Dr. L. C. Sanders and Dr. I. Frank Tullis. Chairman for the program was Dr. John E. Cox of Memphis.

### Southeastern Surgical Meeting

Six hundred physicians attended the Southeastern Sectional Meeting of the American College of Surgeons held in Nashville, April 4-6. Surgeons from eleven states attended the seventy presentations by 84 speakers who covered the most up-to-date surgical procedures involving all parts of the human body. The Sectional ACS meeting was the first to be held in Nashville

since 1940 and was attended by surgeons from this region as well as from other parts of the nation.

### Sequatchie General Hospital-Clinic

Construction of the new half-million-dollar Sequatchie General Hospital and Clinic was completed recently and the formal dedication and opening was held March 13th with Senator Estes Kefauver as the dedication speaker. Dr. Clifford Luddington heads the new hospital.

## PERSONAL NEWS

**Dr. Herbert G. Giddens**, Paris, has announced the opening of his office for the general practice of medicine. He will be located at Nobles Hospital.

**Dr. Ralph Cross**, Johnson City, has been named Vice-President from East Tennessee for the Tennessee Academy of General Practice.

**Dr. Battle Malone II**, Memphis, has been named third vice-president of the Association of Surgeons of the Southern Railway System.

Newly elected officers of the Nashville Obstetrical and Gynecological Society are: **Dr. Frank Whitacre**, President; **Dr. D. Scott Bayer**, Vice-President; **Dr. Russell Birmingham**, Treasurer; **Dr. Homer W. Pace, Jr.**, Secretary.

**Dr. John Kinser**, Morristown, has purchased an interest in the Nabors Clinic.

**Dr. Joc S. Henderson, Jr.**, Maryville, has announced the opening of his office for the practice of medicine, in that city.

Participating recently in a special TV program in Nashville were: **Dr. Charles C. Trabue IV**, **Dr. Robert Quinn**, **Dr. Elliott V. Newman**, **Dr. Mildred Stahlman**, and **Dr. Ernest Goodpasture**.

**Dr. W. B. Campbell**, **Dr. B. F. Gates** and **Dr. J. F. Gilbert**, all of Cleveland, were recently honored on doctor's day, an event sponsored by the Woman's Auxiliary of the Bradley County Medical Society.

**Dr. Lawrence S. Moffatt** is serving as assistant health officer for Coffee, Franklin and Grundy Counties.

**Dr. O. H. Atkins**, Erin, was the subject of a newspaper item relative to his 45 years in practice.

**Dr. E. Gene Lynch**, Morristown, has been called to active duty with the Army.

**Dr. Joe Crupie**, Dyersburg, is joining a clinic at Fontana Village in East Tennessee.

**Dr. R. H. Monger**, Knoxville, is the President of the Tennessee Medical Foundation. **Dr. Ralph O.**

**Rychener**, Memphis, has been named Vice-President, and **Dr. Daugh W. Smith**, Nashville, Secretary-Treasurer.

**Dr. Hiram A. Laws, Jr.**, Chattanooga, is the new president of the Tennessee Chapter of the American College of Surgeons. **Dr. David H. Waterman**, Knoxville, was re-elected vice-president, and **Dr. H. Dewey Peters**, Knoxville, re-elected secretary-treasurer.

**Dr. George Shelton**, **Dr. W. E. Vanorder**, **Dr. George Henshall** and **Dr. Ed Strickland**, all of Chattanooga, recently participated in a radio forum on "Cancer in Children."

**Dr. Howard A. Farrar**, Manchester, is the new chief of staff of the Coffee County Hospital.

**Dr. J. H. Gammon**, Knoxville; **Dr. J. O. Walker**, Franklin; **Dr. L. S. Nease**, Newport; and **Dr. T. R. Ray**, Shelbyville, were honored by the House of Delegates of the TSMA for their outstanding service during the recent Tennessee General Assembly.

**Dr. J. T. Fuller**, Newbern, attended the National meeting of the American Academy of General Practice.

**Dr. Ambrose M. Langa**, Paris, has been called into service by the U. S. Army.

**Dr. E. Wayne Gilley**, Chattanooga, has been certified as a specialist in internal medicine by the American Board of Internal Medicine.

**Dr. Merrill F. Nelson** is now associated with the Earl Campbell Clinic in Chattanooga.

Newly named officers of the Nashville Society of Anesthesiologists are **Dr. Benjamin H. Robbins**, president; **Dr. Preston H. Bandy**, vice-president; and **Dr. Marion Smith**, secretary-treasurer.

**Dr. Robert H. Tosh** has announced the opening of his office for the practice of medicine in New Providence.

**Dr. John Wallace** and **Dr. Walter H. Stephenson**, Gallatin, have moved to a new office location in that city.

**Dr. Ira Long**, Chattanooga, was the speaker at the Physicians Assistants Association recently.

**Dr. Gilbert Varnell**, Cleveland, was the guest speaker recently at a meeting of the Cleveland Jaycees.

**Dr. C. E. Peery** has been named president, **Dr. B. C. Smoot** vice-president, and **Dr. Mary E. Thompson** secretary and treasurer of the Warren County Medical Society, all being from McMinnville.

**Dr. Kenneth Christenberry**, Knoxville, attended the recent sessions of the National Research Council.

The following physicians have participated in a recent postgraduate program at the University of Tennessee College of Medicine. They are: **Dr. A. Reynolds Fite**, Winchester; **Dr. Fred M. Valentine, Sr.**, Newport; **Dr. Paul J. Bundy**, Mountain City; **Dr. Albert R. Lee**, Dover; **Dr. R. S. Morgan**, Pikeville; and **Dr. Howard A. Farrar**, Manchester.

## ANNOUNCEMENTS

The U. S. Public Health Service is attempting to recruit qualified medical personnel in the Commissioned Reserve Corps, Inactive. It is the desire of the Service that those applying come from that group that has discharged its military responsibility.

Interested physicians should communicate direct with Dr. R. A. Vonderlehr, Director Region No. 4, PHS, Room 130, Department of HEW, 50 Seventh Street, N.E., Atlanta, Georgia.

### Tennessee Valley Medical Assembly

The Chattanooga-Hamilton County Medical Society is again sponsoring the Tennessee Valley Medical Assembly on October 3-4, 1955.

The registration fee of \$15.00 includes the banquet on Monday night, as well as the admission to a most interesting scientific presentation. Copies of the proposed program for the Assembly are being mailed to members of the Tennessee State Medical Association.

### International College of Surgeons

An invitation is extended to members of the Surgical and allied professions to attend the Eastern Division Regional Meeting of the United States Section of the International College of Surgeons to be held at Chatham, Cape Cod, Massachusetts, July 1-4, 1955. The program will emphasize the latest developments in the surgical specialties.

### Course in Poliomyelitis

The Pediatric Department at Vanderbilt University School of Medicine announces a one-day Refresher Course in Poliomyelitis on June 30, 1955, which will concern all aspects of the disease, including acute care, rehabilitation, respirator surgical aspects and the latest information on prevention. The course is available to physicians, nurses and physical therapists. For most sessions participants will be grouped according to their own professional interest. A \$5.00 registration fee will cover cost of luncheon, mailing and mimeographing.

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(Continued from Center Spread)

DR. R. B. WOOD of Knoxville, President-elect of TSMA, whose seasoned advice, brilliant thinking, quick courage when action is needed, and broad outlook made him a "must" in committee formation. His executive ability has piled a heavy load on his shoulders in his own community.

DR. HAROLD BOYD of Memphis, whose fine concept of Public Service, plus his know-how in getting jobs done, have provided solid contributions to the program. He expedites decisions and action in Committee meetings.

DR. JOHN M. LEE of Nashville, newest member of the Committee, brought to the program a deep understanding of the problems involved, a rich background of legislative committee service, a keen insight into the thinking of people, and a forthrightness in getting the job done.

DR. J. MARSH FRERE of Chattanooga, whose Public Service in his own Society has brought it wide credit. He is a man who inspires confidence in the public. "May His Tribe Increase."

—Ed Bridges.



## PLACEMENT SERVICE

*The placement service of The Tennessee State Medical Association is designed to assist doctors and communities to get together. Further information and contacts on both physicians and communities are available from the Public Service Department, 322 Doctors Building, Nashville 3, Tennessee.*

### Locations Wanted

A 36 year old, married, Episcopal, graduate University of Colorado, certified in Ophthalmology. Presently in U. S. Navy. Desires community 20,000-200,000 in East or Middle Tennessee. Available July, 1955. LW-104

A 29 year old, married physician, Protestant, graduate Vanderbilt University, priority IV. Available after completing hospital requirements for Internal Medicine Boards on July 1, 1955. LW-132

A 32 year old, married physician, Protestant, graduate Indiana University Medical School, board qualified Urologist. Being relieved from active duty. Desires clinic. Available July, 1955. LW-133

A 31 year old, married physician, Baptist, graduate Johns Hopkins, presently on active duty. Desires general surgery, clinic, assistant or associate. Available July 1, 1955. LW-140

A 27 year old, married physician, Episcopalian. Graduate University of Arkansas. At present General Practice Residence. Terminates June 30, 1955. Available July 1, 1955. LW-146

A 32 year old, married physician, Canadian, Protestant. Graduate "U" Manitoba, Winnipeg, Manitoba. Desires general surgery. Would consider clinic, industrial, assistant or associate. Available February or March, 1955. LW-148

A 32 year old, married physician, Methodist. Graduate Washington University. Applied for FACS and eligible for National Boards, March, 1955. Priority IV. Desires surgery. Available July, 1955. LW-150

A 46 year old, married physician, Seventh-Day Adventist, graduate College of Medical Evangelists, Loma Linda, California. Board eligible in General and Thoracic Surgery in July, 1955. Desires clinic, assistant or associate. Available July, 1955. LW-151

A 27 year old, married physician, graduate Tulane University, taken Part I, American Board of Internal Medicine. Completing military service. Desires Internal Medicine of Cardiology, clinic, Associate. Available July 1. LW-152

A 28 year old, married physician, Methodist, graduate University of Pennsylvania. Three years residency training in Ob. Gen. Priority IV. Desires Clinic, Associate. Available July 1. LW-153

A 36 year old, married physician, Protestant, graduate University of Louisville. Three years (board approved) training in Internal Medicine. Priority IV. Desires Industrial Medicine with special interest in Internal Medicine. Available after January 1, 1955. LW-158

A 30 year old, married physician, Southern Baptist, graduate Vanderbilt University. Reserve Officer. Desires general practice, assistant or associate. Available July, 1955. LW-159

A 27 year old, married physician, Protestant, graduate University of Illinois. Passed Part I of American Board of Internal Medicine, will take Part II in May. Completing military service. Desires Clinic, assistant or associate, or industrial. Available July, 1955. LW-160

A 31 year old, married physician, Protestant, graduate Bowman Gray. Four years general surgery, residency approved, American Board eligible. Priority 5-A. Available July 1, 1955. LW-161

A 28 year old, married physician, Protestant, graduate University of Tennessee. At present Interning. Desires General Practice, Clinic, Assistant or Associate. Available August 1, 1955. LW-162

A 30 year old, married physician, Protestant, graduate St. Louis University, desires general practice in community 10,000-30,000. Clinic, assistant or associate acceptable. Desires East or Middle Tennessee. Available late Spring, 1955. LW-165

A 33 year old married physician, Protestant, graduate University of Cincinnati. Board certificate Urology. 36 months previous military service. Community preferred 50,000. Available July 1, 1955. LW-166

A 25 year old, Protestant, married, graduate University of Tennessee. Desires General Practice with minor surgery in small town near Knoxville. Will consider others. Available July 1. LW-167

A 33 year old, married physician, Hebrew, graduate University of Maryland, Diplomate American Board of Dermatology & Syphilology. Priority IV. Available immediately. LW-168

A 33 year old, married physician, Protestant, graduate Northwestern University, priority IV, Desires Internal medicine, clinic, assistant or associate. Available any time. LW-169

A 31 year old, married physician, Roman Catholic, graduate Georgetown University School of Medicine. Board eligible American Board of Orthopedics. Draft exempt. Desires clinic, assistant or associate. Available October 1. LW-170

A 31 year old, married physician, Episcopalian, graduate University of Pennsylvania. Present practice limited to hospital patients. Desires to enter private practice. Specialty Internal Medicine. Available now. LW-171

A 31 year old, married physician, graduate Alabama Medical College, Priority IV. Desires general practice, clinic, assistant or associate. Available July 1. LW-172

A 35 year old, married physician, Protestant, graduate University of Oklahoma. Board eligible—general surgery. Priority IV. Desires general surgery, clinic. Available July 15. LW-173

A 33 year old, married physician, Protestant, graduate Medical College of South Carolina Board qualified—Dermatology. Priority IV. Available July. LW-174

A 30 year old, married physician, Christian, graduate Vanderbilt School of Medicine, Vanderbilt certificate for 2 years training in Pediatrics. Desires clinic with another pediatrician. Available July 1. LW-175

APPROVED CARD RECORD  
Committee on Postgraduate Instruction in Obstetrics  
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thod of Delivery and Complications:  
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BACK  
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| ne                 | Age                | M.S.W.                | Color           |
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| e of Last Period   | Date of Quickening | Confinement           |                 |
| number of Children | Living             | Dead                  | Stillborn       |
| racter of Labors:  |                    |                       |                 |
| arriages:          |                    |                       |                 |
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| sical Examination: | Teeth:             | Tonsils:              | Heart:          |
| roid:              | Breasts:           | Lungs:                |                 |
| domen:             |                    |                       |                 |
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| od Wassermann:     | 1.                 |                       |                 |
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# Journal of the Tennessee State Medical Association

OWNED AND PUBLISHED BY THE ASSOCIATION

Volume 48

JUNE, 1955

Number 6

## IMPROPER HOSPITALIZATION UTILIZATION AND ACCREDITATION\*

KENNETH B. BABCOCK, M.D.,† Chicago, Ill.

*Æsop's Fable*—A certain man had himself a goose which laid him an egg of gold each day; the man being avaricious and greedy, killed the goose to get all the gold and, lo, got none.

### Voluntary Prepayment Assurance

Before going into the main body of the paper as announced, I wish to state some of the facts concerning prepayment to prepare the ground for the paper itself.

Voluntary prepayment as the method of financing hospital care is the most significant economic development in the evolution of the American hospital. As a factor affecting the voluntary hospitals it ranks in importance with the advent of anesthesia, of aseptic surgery, and of radiology.

The development of a voluntary prepayment and a scientific medicine are complementary. The one, scientific medicine, makes modern hospital care possible; the other, voluntary prepayment, brings modern hospital care within economic reach of the people.

Voluntary prepayment, an orderly method of financing hospital care by means of voluntary periodic payments, was conceived in the public interests. It permits the purchase of assurance for the family or individual that the hospital care they receive during the protected period will be financed from the pooled fund created by their payments. It represents cooperative community action and symbolizes the philosophy and tradition which has made the voluntary hospital possible.

As a community tool for financing the quality and scope of hospital services desired by the people, it is no longer an experimental undertaking. It has convincingly demonstrated its potentialities as the solution to the problem of financing hospital care.

Its rapid growth is evidence of the necessity of the prepayment mechanism for financing hospital care. Today, more than six out of ten employed persons and their dependents have some sort of prepaid hospital protection. This widespread acceptance and interest given voluntary prepayment by both the public and the hospitals is a mandate for continued extension and improvement.

With an increasing reliance on prepayment as the method of financing hospital care there is an inevitably wider public concern with factors that affect the cost of prepayment. Our specific problem can be stated as follows: "Thoughtful medical men and hospital administrators, as well as the executives of hospital prepayment plans, are terribly concerned over the rising rate of contract utilization as reflected by the days of service rendered to contract holders." The writers of prepayment insurance, and especially Blue Cross, in their contracts state that it is health care for the sick. It is not written to take care of executive examinations, nor is it meant to pay for the hospitalization for every trivial medical happening.

Have we been too free and easy, as we have blithely said, "Oh, you have Blue Cross or some other prepayment like Travelers, Ætna,—come on into the hospital, the water is fine" or are we killing the golden goose, —prepayment—insurance?

Some very extensive investigations and

\*Read at the President's Luncheon, Meeting of the Tennessee State Medical Association, April 12, 1955, Chattanooga, Tenn.

†Director, Joint Commission on Accreditation of Hospitals.



surveys have been made by state medical societies, Blue Cross Plans, insurance companies and hospitals concerning improper utilization of hospital facilities. The approaches have been different but most all have come up with the same answer, that four sources are to blame for improper utilization: (1) the prepayment plans, that is Blue Cross and all insurance companies writing a hospital insurance; (2) the patient himself; (3) the hospital; and (4) the physician.—Let us take them in order stating the faults of usage and what has been and is being done to correct these faults.

*Prepayment Plans.* In the effort to sell hospitalization insurance in a competitive market, many misleading claims are made by improper advertising. Specifically, right now, eighteen insurance companies selling hospitalization insurance are under Federal indictment for this misleading advertising. The cases have not come to court as yet but already the advertising by these companies is cleaned up. It is a forward step. Blue Cross itself has been almost as culpable. All ads still seem to have two purposes: (1) to scare one into taking out hospitalization insurance; and (2) to give the impression that once one has this insurance, total hospitalization in any form is yours for the asking,—almost a case of come on in, the water is fine. Somebody forgot to mention out loud that it did not cover obstetrics for the first nine months after writing; was good only for X-number of days; did not cover alcoholism, insanity, tuberculosis, or domiciliary care of any sort; nor complete check-ups or executive examinations. Salesmen for the companies have not been honest in their sales approaches. They have offered much more than has been their right to offer. In this field then, there has been an effort to tone down advertising and at least to keep it from being too misleading. I know of no concerted effort to keep salesmen truthful but all companies say there are repeated orientation programs for them.

*The Patient Himself.* In this category there is a close interlocking with the doctor but let us look only at patient abuses.

The element of human psychology which says, "I'm paying for hospitalization insurance, I ought to use it," puts the pressure on you and me as doctors to send the patient

into the hospital as in-patients for the sniffles, X-ray studies, laboratory tests, physical evaluations, diagnostic procedures and a host of office procedures. They were sold insurance specified as sickness and injury insurance necessitating hospitalization, but they expect total medical coverage. The correction of this evil is fourfold.

(1) They must not be oversold by ads or salesmen.

(2) The doctor must assert himself and not allow hospitalization where it is not called for.

(3) Blue Cross-Blue Shield and the insurance companies must explore new fields and come up with answers and policies paying for hospital out-patient visits, annual physical or diagnostic examinations and liberalization of payment for office procedures.

(4) An educational program fostered by prepayment companies to instruct insured groups on, "Abuse your insurance and watch your premiums go up." "Your insurance or Blue Cross plan is an agreement with hospitals to take care of the critical illnesses of their respective clients and patients."

*Hospitals.* Hospitals and hospital administrators have done less and could probably do more than anyone else if they would stop the defeatist attitude of, "What can I do,—the insurance company sells the policy, the doctor orders for the patient." For clarity sake, I am going to enumerate the sins and try and give their solutions at the same time.

(1) See to it that the medical staff passes, and the hospital enforces a rule that all antibiotics, narcotics and toxic drugs have a stop order on them. The Joint Commission on Accreditation of Hospitals checks on this now when surveying a hospital, more for the safety factor than the economic—both are abuses. Hundreds of hospital charts shows no temperature elevation, patient up and about, and still getting penicillin every four hours.

(2) Poor messenger or delivery service,—a fault exclusively of hospital management. A laboratory test or X-ray film is usually taken one day and reported the next morning. The messenger, technician or stenographer is given other duties, or is distracted and the reports are not sent out. There are

three possible and common sources of error right there,—delayed dictation by roentgenologist, delayed transcription by the stenographer, and poor messenger transmittal to the floor charts.

(3) All of these factors are equally applicable to the laboratory. How many times have you heard, "You may go home as soon as I get the laboratory or X-ray report?"

(4) Physicians usually discharge patients in the morning. If the nurse is slow in getting clearance for discharge from cashier's office, or does not impress on the patient the desirability of getting out early in order to allow another patient to come in, a half day is wasted, or worse, a full day because patient goes home so late the bed cannot be filled by a called in-patient. Even if called in, the hospital is unable to perform any tests or X-ray studies on the patient until the next day, and this extra day for evaluation is lost.

In the Navy they speak of a tight or taut ship, meaning a well-run, clean, efficient ship. Our hospitals should be just as "taut."

*Physicians.* The greatest single source of abuse of insurance or Blue Cross is the admission for diagnosis only. I believe in preventive medicine and physical check-ups. I do not believe in it when it is done at the expense of sick patients and the policy does not specify it. Remember most policies read, "an agreement with hospitals to take care of critical illnesses." The multitude of tests in a case of check-up examination makes it the most expensive form of hospitalization. Companies have got to refuse payment on such cases and the doctor has to say, "No, this is not included," when a patient requests such in-hospitalization service.

#### Accreditation and Improper Usage

Many of you no doubt are wondering what has accreditation to do with this improper utilization? Where is the tie-in?

The accreditation program is a continuation of the old American College of Surgeons program except that where the College program embraced only surgery, the Commission's program embraces total hospital quality care,—medicine, surgery, obstetrics, pediatrics—all phases of patient care. The Joint Commission's ideal is, "bet-

ter quality care in the hospitals of the United States and Canada." To evaluate this care, objective minimal standards were developed. Examples are many,—for instance, the work of the tissue and audit committees.

A surveyor of our Commission goes into a hospital and finds that the tissue committee of that hospital reports too high a percentage of unjustifiable normal tissue removed. If that tissue committee has not recommended action to the staff executive committee and that action consummated, the hospital in question might lose its accreditation. One of the hard things in this business is for the individual physician or surgeon to consider the hospital in the aggregate. Here is one hospital with 100 men having surgical privileges. Each surgeon took out one unjustifiable appendix in 1954. One is not a big number but when the story gets out in the newspapers it isn't one apiece, its "X hospital removed 100 unjustified appendices in 1954." Terrible!

Next, let us look at uterine suspensions. It is a good operation when indicated but when we go into a hospital and find 20 such operations with a vaginal examination unreported in primiparae and another 30 done on multiparae without vaginal examination or a repair operation, we question the evaluation by the hospital's surgical or record committee. We condemn such and so should the Record, or Tissue, or Audit Committee. Now automatically if, by careful and thoughtful diagnosis, these 100 appendices and 50 suspensions had been eliminated, Blue Cross or the insurance companies would have been saved several thousand dollars. If you like figures, 150 operations with an average hospital bill of \$200 is \$30,000 saved yearly. There are 7,000 general hospitals in the United States with from 5 to 5,000 beds,—multiplying this out equals a saving of \$2,100,000 yearly. Fantastic you say,—not a bit. The United Mine Workers are building some 12 new hospitals in Kentucky and West Virginia. While these hospitals are being built they have made it a rule in a great many communities that they will only pay hospitalization bills to accredited hospitals and have so notified miners and hospitals. They have statistical proof of any number of hospitals with a 50

per cent drop in the number of hysterectomies. They have figures on one hospital alone, not accredited in 1952 by the American College of Surgeons because of excessive removal of normal tissue, with over 150 hysterectomies performed. In 1953 the hospital was informed it would not be paid unless it became accredited. In 1954 this hospital had exactly 32 hysterectomies, all justified pathologically, and it was accredited.

In 1953 the Kellogg Foundation fostered a complete medical audit in 14 southwestern Michigan Hospitals ranging from 40 to 350 beds in size. A form was worked out and the audit approved by the medical staffs of all the hospitals. On their own evaluations, 31 per cent of all appendectomies (no incidental removals included) were unjustified clinically. This was after a chart evaluation by the medical staff itself, mind you. One hospital had over 60 per cent unjustified appendectomies, one surgeon with over 80 per cent unjustified operations, most of his 80 per cent unjustifiable removals being in children under 14 years of age.

It is our purpose to try and stop such loose practices. We never point the finger at an individual, we tell the hospital there is laxness present and to get after it itself. We are present to assist and point out deficiencies. We are, we hope, objective assistants not assailants. Hospitals will correct themselves. Lest the internists and pediatricians feel slighted, our surveyors and your hospital record committees themselves have turned up many instances of abuse.

Corrections have been accomplished in many instances where grandma was hospitalized for a month with one shot of cortisone daily for her arthritis while the family went to Florida. The school teacher in for

the two weeks of Christmas vacation, one injection of iron cacylodote daily for "anemia,"—her roommate was away and she was lonesome, wanted free room and board, nursing care and company. Unjustifiable in every respect! With the stimulation of the Joint Commission and setting criteria for cases to be justifiably admitted and for justified therapy, such abuses are being eliminated.

Mr. and Mrs. Jones desired to go North for deer hunting; the records of Sally, age 6 months, and Junior, age 2 years, showed this—hospital admittance note,—“feeding problems,” nurses’ notes read “these children eat like horses; they are here as a boarding convenience only.” We caught it by an examination of charts, noting there were no physician’s visits. That is not good care, it was plain Blue Cross abuse in this case.

I am sure you know of none of these cases because no physician in his right mind is going to boast about such abuses or mistakes. It takes honest, conscientious, total reviews by tissue, record, audit or staff committees to put these individual cases into mass statistics and then study them. How can this be accomplished,—very simply by the 4 R’s (give four R’s—responsibility, rules, records, review).

### Conclusions

Certain physicians, hospital administrators, Blue Cross and insurance executives, and patients were careless and thoughtless, and improperly used and abused Blue Cross and hospitalization insurance plans, and they went bankrupt, and, lo, government medicine came in.



*The increasing indications for the use of the anticoagulant drugs require that the physician contemplating their use beware of the dangers and the safeguards involved.*

## THE USE OF ANTICOAGULANTS\*

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Anticoagulants are now rather widely used in medicine, and with the ever growing number of hospitals and their central laboratories becoming more available to the practicing physician, it is reasonable to expect even more extensive use of these preparations in the years ahead. Up to now, healthy disagreements in opinion, different experiences and varying enthusiasm have led to differences in the everyday use of anticoagulants. In many disorders their value is justified on theoretical grounds and general experience, whereas in other conditions their value has been studied carefully by comparison of treated and control groups, even though in this latter approach different investigators have arrived at different conclusions.

### Indications and Contra-indications

Basically, anticoagulants would be expected to be of value chiefly by preventing intravascular clotting, and this has been the general basis for use of the agents in medicine. Wright and his associates<sup>1</sup> in England, however, have demonstrated in rabbits that recanalization of experimentally thrombosed veins occurred more rapidly in the animals treated with the anticoagulant Tromexan than in the controls. Such experience encourages us that the beneficial effect of anticoagulants might well include some effect on an already established blood clot.

At the present time anticoagulants are widely used for the following conditions: (1) acute myocardial infarction, (2) rheumatic heart disease with embolization (usually with auricular fibrillation), (3) venous thrombosis including thrombophlebitis and phlebothrombosis, (4) thrombophlebitis mi-

grans, (5) pulmonary emboli from unrecognized sources, (6) sudden arterial occlusion due to embolism or thrombosis, (7) chronic congestive heart failure with a tendency to develop thromboses, (8) a familial tendency to develop thrombosis which has become manifest in a patient, (9) prophylactically, postoperatively, (10) in vascular surgery and (11) retinal artery and vein thrombosis.<sup>2</sup>

The contraindications are equally important. Anticoagulants, in general, should be avoided under the following circumstances: (1) prothrombin deficiency due to vitamin K deficiency or severe liver disease, (2) blood dyscrasias with impairment of the normal mechanisms for hemostasis, (3) renal insufficiency, (4) vitamin C deficiency until it is corrected, (5) surgical or accidental trauma to the brain or spinal cord, (6) ulcers, benign or malignant, of the gastrointestinal or urinary tract, and (7) subacute bacterial endocarditis.<sup>3</sup>

Regardless of everything else the judgment of a physician in charge of a specific patient under specific circumstances must be the deciding factor as to whether or not anticoagulants should be used on that patient.

The value of anticoagulants in peripheral venous thrombosis and pulmonary embolism has been firmly established by several groups.<sup>3</sup> This includes thrombophlebitis or pulmonary embolism following surgery, following delivery, after severe injuries such as fractures, during acute infectious diseases, and during congestive heart failure. In many of these anticoagulants have become clearly the treatment of choice in virtually all cases. In some of the conditions, however, it is uncertain whether routine use in all cases is clearly justified. In postoperative patients anticoagulants should be used in chosen cases, as in patients with a history of previous venous thrombo-embolic disease.<sup>1</sup> Anticoagulants strikingly reduce

\*Read before the Meeting of the Tennessee State Medical Association, April 11, 1955, Chattanooga, Tenn.

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thrombo-embolism in congestive heart failure,<sup>1</sup> but again their use probably should be limited to those cases where thrombo-embolic complications develop.

The issue about anticoagulants in myocardial infarction and the growing long-term application of the drugs deserve special comment.

#### Myocardial Infarction

The theoretical advantages of anticoagulant therapy in acute myocardial infarction include the prevention of additional thrombi or of extension of the existing thrombus in a coronary artery, prevention of mural thrombosis over the infarcted area on the inside of the heart with subsequent embolic accidents, and finally the prevention of venous thrombi, particularly in the lower extremities, which can serve as sources of fatal pulmonary emboli. The validity of this reasoning has been amply tested by studying mortality and thrombo-embolic complications in myocardial infarction, both with and without anticoagulant therapy. Different results have led to two general approaches: the use of anticoagulant drugs in virtually every patient with proved acute myocardial infarction, or the use of these drugs only in patients classified by various criteria as "poor risks."

Evidence for routine use is provided by the report of the Committee on Anticoagulants of the American Heart Association.<sup>2</sup> Controlled studies were carried out in 16 hospitals throughout the United States, and in a period of two years a total of 1,031 hospitalized cases of myocardial infarction were studied. To the satisfaction of the Committee, anticoagulants definitely lowered the mortality rate in myocardial infarction, since among 442 control group cases, 23.4 per cent died within six weeks, whereas among 589 treated group cases, only 16.0 per cent died. Similarly, thrombo-embolic phenomena were materially reduced, with 26 per cent of the control group cases developing thrombo-embolic complications during the period studied as contrasted with only 11 per cent of the treated group. Provided they are used correctly, it was the opinion of the Committee that anticoagulants should be used routinely in the management of myocardial infarction un-

less specific contraindications were present. Agreement with this approach has been expressed in the opinions and studies of others.<sup>6,7</sup>

Some investigators have contested the wisdom as well as the necessity of employing anticoagulants routinely. Russek and Zohman<sup>8</sup> reviewed the experience of 1,047 patients with acute myocardial infarction treated without the use of anticoagulants, dividing these into "good risk" and "poor risk" cases. All patients were defined as "poor risk" if on the first day of hospitalization they showed one or more of the following serious prognostic signs: (1) previous myocardial infarction, (2) intractable pain, (3) extreme degree or persistency of shock, (4) significant enlargement of the heart, (5) gallop rhythm, (6) congestive heart failure, (7) auricular fibrillation or flutter, ventricular tachycardia, or intraventricular block and (8) diabetic acidosis, marked obesity, previous pulmonary embolism, varicosities in the lower extremities, thrombophlebitis, or other states predisposing to thrombosis. The mortality for the over-all group was 33.4 per cent and thrombo-embolic complications occurred in 6.0 per cent. When their patients were analyzed according to "good risk" and "poor risk," Russek and Zohman found a mortality rate of only 3.1 per cent among the "good risk," as compared to 60.0 per cent mortality in the "poor risk" group. Similarly, the incidence of thrombo-embolic complications was 0.8 per cent among the "good risk" and 10.6 per cent in the "poor risk" group.

Furman and his associates<sup>9</sup> with somewhat similar prognostic categories compared their experience in an anticoagulant-treated series with that of an earlier group receiving conventional therapy but no anticoagulants. With no significant difference of the results in the "good risk" group, they demonstrated a beneficial effect of anticoagulant therapy in the "poor risk" group, with 41 per cent mortality in the control group as compared with 23 per cent among the anticoagulant-treated group. There was significant reduction in the incidence of thrombo-embolic phenomena in certain groups, but these authors indicated that thrombo-embolic complications played a

minor role in their experience in the course of acute myocardial infarction.

Schnur<sup>10</sup> studied 1,350 patients with myocardial infarction classifying them according to severity by means of his "pathologic index ratings." In his experience mortality was strikingly related to the severity of the illness, and the actual mortality rate of patients treated with anticoagulants was quite similar to the average mortality in each hospital during the preceding 10 years when conventional therapy without anticoagulants was used. He concluded that anticoagulants should not be prescribed routinely in patients with myocardial infarction who are only mildly ill but rather should be given in the more seriously-ill patients chiefly because of theoretical advantages rather than clearly-demonstrated superiority of such treatment.

Through all these discussions, one is impressed with the marked differences in incidence of thrombo-embolic complications in various groups of patients with myocardial infarction. For instance the 6.0 per cent incidence in untreated patients by Russek and Zohman<sup>8</sup> is significantly less than the 26 per cent incidence among controls, and still less than the 11 per cent incidence among the anticoagulant-treated patients, by Wright and his associates.<sup>5</sup> Such variations indicate how heavily this type of observation depends on the enthusiasm, index of suspicion, and arbitrary definitions of individual investigators. There is also argument whether one can estimate accurately on the first day of illness the ultimate seriousness of a myocardial infarction, and various investigators<sup>5,11</sup> feel it cannot be done with sufficient accuracy to use such a method of case selection.

In final analysis each physician must decide for himself on each patient whether or not to use anticoagulants in myocardial infarction, and in effect he has authoritative backing for being conservative, although practically all students of the problem favor the use of these drugs in all "poor risk" or seriously-ill patients with myocardial infarction.

#### Long-Term Therapy

Experience has now grown to the point that anticoagulants are used in a number

of conditions for periods varying from several months to several years. Wright and his associates<sup>12</sup> outline the following indications for such long-term therapy: (1) multiple embolization in patients with rheumatic heart disease and auricular fibrillation, (2) recurrent thrombophlebitis, (3) multiple arterial occlusions due to thrombosis or embolism, (4) recurrent myocardial infarction especially if thrombo-embolic complications are evident, (5) idiopathic or familial thrombosing conditions, (6) idiopathic and recurrent pulmonary embolism or thrombosis and (7) other less well defined indications, including angina pectoris, cerebral vascular spasm or multiple small thromboses, and arteriosclerosis obliterans with progressive occlusive episodes.

Experiences with a sizable total number of patients with the above disorders and even others have been reported by numerous investigators<sup>6,12-15</sup>. These reports are replete with patients who suffered multiple serious emboli prior to therapy and during periods when anticoagulation was omitted but were materially helped by anticoagulants over long periods. It has been universal experience that some thrombo-embolic episodes continue to occur during long-term use of anticoagulant therapy, but their incidence is very materially reduced and the treatment is considered good insurance.

As a striking example of what can be done Tulloch and Wright<sup>13</sup> maintained 227 patients on Dicumarol or Tromexan on an out-patient basis for a period of four weeks or longer. Some patients are still under treatment eight years later, and the over-all experience totals 180 years, 124 days. The majority of patients had rheumatic heart disease, thrombophlebitis, and myocardial infarction. A total of 546 thrombo-embolic episodes occurred among all the patients before anticoagulant drugs were used, whereas some 40 thrombo-embolic complications occurred during treatment with anticoagulants.

#### Choice of Drugs

While heparin parentally and Dicumarol orally have been used extensively, in the past few years a number of new drugs have been introduced, in search of one that meets the ideal criteria of rapid therapeutic effec-



tiveness, low toxicity, low daily variability of effect and low cost. All of the agents unfortunately still have the problem of considerable variation in dose from patient to patient and similar variation in the same patient from time to time.

These newer agents have been studied by a number of investigators, and include Tromexan,<sup>18,19</sup> Cumopyran,<sup>19</sup> phenylindanedione,<sup>20-22</sup> Dipaxin,<sup>23,24</sup> Warfarin,<sup>24</sup> and Marcumar.<sup>25</sup> While the experience of different investigators vary somewhat, the general characteristics of action of each of these new anticoagulants is outlined in Table 1.

Table 1  
COMPARISON OF CHARACTERISTICS OF SEVERAL  
ANTICOAGULANTS

| Drug      | Time to Reach Therapeutic Levels | Variability of Daily Prothrombin Levels | Time to Return to Normal |
|-----------|----------------------------------|---|--------------------------|
| Dicumarol | 48-72 hr.                        | 2                                       | 3-7 days                 |
| Tromexan  | 24-48 hr.                        | 3+                                      | 48-60 hr.                |
| Cumopyran | 48 hr.                           | 1+                                      | 5-14 days                |
| Hedulin   | 24-48 hr.                        | 2+                                      | 48-72 hr.                |
| Dipaxin   | 24-48 hr.                        | 1+                                      | 15-20 days               |
| Warfarin  | 24-48 hr.                        | —                                       | 5-10 days                |
| Marcumar  | 48-72 hr.                        | —                                       | 4-6 days                 |

Although the physician has a number of drugs from which to choose, the dosage and characteristics of each is quite different, and the most important thing is to know one or two preparations quite thoroughly in order to use them properly.

Heparin for example may be given intravenously or intramuscularly. The solution is administered by continuous intravenous drip of 200 mg. in 1,000 ml. of 5 per cent glucose or intermittent intravenous injection of 50 to 75 mg. every four hours. Heparin in repository form may be given intramuscularly in doses of 200-400 mg. every 12 to 24 hours. In each plan the exact dosage is varied according to periodic coagulation time determinations.

Dicumarol is given orally in doses of 300 mg. on the first day, 100 to 200 mg. on the second day, and 50 to 100 mg. daily thereafter, the exact dose being varied according to prothrombin time determinations.

Where anticoagulant effect is desired as

promptly as possible, heparin parenterally and one of the above oral preparations have usually been started simultaneously, thus providing immediate protection. The heparin is then discontinued 48 to 72 hours later, after adequate prothrombin suppression has been attained. Recently Tromexan and Dipaxin have been so combined at the beginning of therapy to give greater assurance of a therapeutic prothrombin level by the end of the first 24 hours.<sup>23</sup> In this way, heparin therapy is limited only to the first day of treatment.

### Control of Therapy

The most important part of anticoagulant therapy is the successful laboratory measurement of the blood clotting mechanism. Coagulation time and prothrombin time determinations, as performed by present day methods, are extremely variable and subject to wide error. Some of the factors which influence the results of the test are difficulty in performing the venipuncture, cleanliness of glassware, agitation of the blood, differences in environmental temperature, condition of the reagents used and the experience and alertness of the technician performing the test.

Whatever a physician's judgment might be concerning the indication of anticoagulants in a given patient, it is his prime responsibility to be certain that accurate coagulation and prothrombin determinations are available and are performed at the proper intervals on every patient receiving such drugs. While the physician might not consider himself responsible for the supervision of the laboratory performing such studies, he is nevertheless acutely responsible for the welfare of the patient he is treating, and the success of his anticoagulant therapy depends on these laboratory studies. It behooves each physician then to make his decision about the use of anticoagulants according to the availability of the laboratory studies, and, where such studies are available, to convince himself personally that the studies are performed with proper care and attention. To do otherwise is inviting dangerous complications to his patient which far outweigh any benefit that might be derived from anticoagulant therapy.

In following patients receiving anticoag-

ulants the effect of heparin preparations is determined by measurement of the coagulation time. Such determinations must be performed every 4 to 12 hours depending upon the specific preparation used, and results of each determination serve as a guide for future dosage. In general, a coagulation time of two to three times normal for the particular method used is considered a desirable therapeutic effect.

The effect of all the other anticoagulants discussed above is followed by the measurement of the prothrombin time, of which the Quick technic is the most suitable for average hospital work. While it is described as an essential part of the prothrombin study to determine the prothrombin time of a normal control patient, some laboratories will attempt to omit this step because of the inconvenience involved. Such is to be condemned strongly since a simultaneous normal control determination is the best possible protection of the laboratory study.

In every instance, at the beginning of therapy, a prothrombin determination should be performed daily, and such daily studies should be repeated until the patient has a relatively constant prothrombin time on essentially the same daily dose. This usually requires 7 to 10 days. Thereafter, determinations can be performed every 2 to 3 days or twice weekly for a short period and then, in accordance with the stability of response, the intervals are gradually lengthened. In the event of long-term therapy, many patients require determinations once weekly, while others have extremely predictable results, and their therapy is well controlled by a test every two weeks. It is only the exceptional case that can be properly controlled by prothrombin determinations as infrequently as every three weeks. The experience of practically everyone using long-term anticoagulant therapy has been that patients will have unexpected deviations from time to time and thus are subjected to periods of inadequate therapeutic effect or potentially dangerous over-effect. This being the case, if the patient's situation is such to deserve the trouble, expense, and risk of long-term therapy, then the studies should be performed sufficiently often to get the best possible results

and still remain within limits of practicability.

In the use of these agents in acute problems over a period of a few weeks where the highest possible degree of protection is desired, the prothrombin times for the patient should be between two and two and one-half times that of the control. In case of long-term therapy, over a period of months or years, the optimal therapeutic range is slightly lower because such patients are subject to trauma and the risk of less frequent laboratory determinations and should be approximately one and one-half to two times that of the control. While this latter objective probably lowers somewhat the full therapeutic effectiveness, it is a sound compromise to decrease the risk of hemorrhage. The physician in charge, after weighing the merits of the case, can always alter the therapeutic levels according to his best judgment.

#### Complications

The most common complication accompanying the use of anticoagulants is hemorrhage, this occurring in about 5 to 10 per cent of patients, with severe bleeding in about 1 per cent.<sup>5</sup> In long-term therapy Tulloch and Wright<sup>13</sup> detected hemorrhagic complications in 18.9 per cent of patients, but the great majority of these were of minor significance, ecchymoses and hematomata being the most common. Two patients with cerebral hemorrhage represented the only serious complications, and one of these patients accounted for the sole death due to hemorrhage in that series. Thus, most hemorrhage is relatively minor in severity and is well controlled by appropriate measures, but some can be quite serious as in the case of intracerebral hemorrhage, and some can be fatal. It is well to remember that in 1951 Flaxman<sup>26</sup> reported Dicumarol to be the most common cause of fatalities resulting from orally administered drugs since December, 1946.

In general, hemorrhagic complications are more frequent and more serious in situations where the prothrombin time is prolonged more than three times the normal, but this is not always true since significant hemorrhage can occur at much lower prothrombin time levels. Occasionally, in the

case of long-term therapy, there is excessive menstrual bleeding, but this is not common. In other patients, bleeding at routine therapeutic levels in long-term therapy has been the signal for investigation which has led to the diagnosis of carcinoma of the cervix and uterus, cervical polyps and erosions, carcinoma of the bowel, ulcer of the bladder and duodenal ulcers.<sup>12</sup>

At times the anticoagulant itself is not directly responsible for trouble. Aspirin has a Dicumarol-like effect, dietary variations apparently influence Dicumarol effect, and alcohol indulgence affects the dosage stability. Likewise, antibiotics, by affecting the intestinal flora, may influence Dicumarol effect.<sup>13</sup> Several deaths and other instances of serious retroperitoneal hemorrhage have been reported following the performance of lumbar sympathetic block during anticoagulant therapy.<sup>27, 28</sup> The risk is too great to use these therapeutic procedures simultaneously.

Patients receiving anticoagulants at times require emergency surgery, and particularly in the instance of long-term therapy, the physician is faced with avoiding hemorrhage during the operative procedure and at the same time avoiding a thrombo-embolic complication as a result of prolonged withdrawal of therapy. Experiences have been reported in which anticoagulant effect was counteracted immediately prior to emergency appendectomy,<sup>29</sup> and a more recent series has been reported in which seriously ill patients were carried through surgical procedures, some of quite significant magnitude purposely maintaining the Dicumarol effect, keeping the levels between 12 and 36 per cent.<sup>30</sup> No excessive hemorrhage and no unusual complications were encountered.

When minor hemorrhage occurs, it can often be stopped simply by decreasing the dose of the drug, often only temporarily. If the situation is more urgent, most instances of hemorrhage can be controlled either by the administration of a vitamin K preparation or by the transfusion of whole blood. While fresh blood is preferable, that obtained from the usual hospital blood bank is effective, although even here the freshest blood should be used. Either menadione sodium bisulfite or vitamin K,

administered parenterally will lower the prothrombin effect, serving in many instances to bring the patient from a overdosage level to a satisfactory therapeutic level. In one series of Dicumarol treated patients, vitamin K<sub>1</sub> oxide in doses of 500-1,000 mg. intravenously raised the prothrombin activity from the 10 to 20 per cent range to more than 30 per cent in an average of 13 hours.<sup>31</sup> An even more striking effect is obtained with vitamin K<sub>1</sub>, which can be administered orally or intravenously. In Dicumarol-treated patients, doses of 500-1,000 mg. intravenously raised the prothrombin activity significantly above the 10 to 20 per cent range in four hours and returned it to normal within 24 hours. Oral doses of 500-1,000 mg. gave similar but slightly slower results.<sup>32</sup>

### Summary

1. Anticoagulant therapy is a valuable addition to the therapeutic armamentarium of the physician, serving a most useful role in many acute thrombo-embolic disorders, as well as in the long-term management of many diseases.

2. A number of drugs are available to the physician with various characteristics, but the most important thing is to know one or two drugs thoroughly in order to apply them properly.

3. Adequate laboratory control is absolutely mandatory for anticoagulant therapy, and it is the responsibility of the physician using the drug to be certain that this requirement is properly fulfilled.

4. At the present stage of our knowledge, complicating hemorrhage can be expected to occur in anticoagulant therapy, but it is usually minor, can be kept to a minimum by careful laboratory control and usually can be controlled promptly by proper medications.

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### Discussion

DR. E. CHARLES SIENKNECHT (Knoxville): I should like to congratulate Dr. Tullis on the presentation of this paper and to commend him upon his deft coverage of this subject. Such complete coverage requires no discussion.

I think interest centers at the present time on the long-term use of anticoagulants. Since short-term anticoagulant therapy has been so successful, it is only natural that primary interest and investigation should shift to long-term therapy. Most authors on this subject agree that the course of individuals so treated has been favorable. Their opinions vary from the one extreme that outpatient therapy offers no problem, to the other

extreme of the many problems which arise in such out-patient<sup>1</sup> long-term therapy. Tullock and Wright, previously quoted by Dr. Tullis, conclude that when adequate laboratory facilities are available, out-patient long-term anticoagulant therapy may be instituted by any physician familiar with the use of anticoagulant drugs, and that, when properly controlled, it is relatively safe. Needless to say, if such can be provided safely, it will be a great step forward for modern medicine. To me the pertinent point is that in each case the risk of therapy must be weighed against the risk of the disease being treated.

The primary problems, as Dr. Tullis has stated, to long-term therapy for the average physician are: (1) the continuing difficulty of accurate prothrombin time determinations in the laboratory;

and (2) the variation of dosage requirements of a few individual patients from time to time,—these are influenced by certain factors of nutrition and certain drug ingestions, such as salicylates and alcohol, over which the physician often has very little control when treating the patient on an out-patient basis.

The only other point which I have to mention is that the consensus of opinion, at the present time, favors gradual withdrawal of the prothrombin depressant drugs rather than sudden withdrawal, since it has been noted that frequent thrombo-embolic phenomena occur upon sudden withdrawal of these drugs.

I should like to thank Dr. Tullis for his presentation of this timely paper.

*An aging population has brought into prominence the morbid effects of pulmonary emphysema and resultant pulmonary failure. Its differentiation from cardiac disease, which may develop ultimately, is essential for proper management.*

## CHRONIC PULMONARY EMPHYSEMA\*

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As the life-span of the population becomes progressively longer, and with the control by antibiotics of most acute respiratory infections, the chronic bronchopulmonary diseases are becoming more and more prominent. Most chronic diseases of the lung, chronic bronchitis, chronic bronchial asthma, bronchiectasis, granulomatous diseases, pneumoconioses and others, sooner or later lead to pulmonary emphysema resulting in progressive disability and finally failure of the lung.

### Pathogenesis

Pulmonary emphysema is most likely to occur in the presence of chronic bronchitis, particularly when accompanied by bronchospasm (chronic asthmatic bronchitis), and following diffuse pulmonary fibrosis. In both situations chronic bronchiolar obstruction usually exists, as a result of bronchospasm, mucosal edema, hypertrophy and excessive secretions in the case of chronic bronchitis, and due to impingement on the lumen of the bronchioles by contracting interstitial scar in the case of fibrosis. This obstruction is greater during the expiratory phase of respiration. As obstruction progresses a check-valve mechanism operates to trap air during the expiratory phase. Air-trapping leads to chronic hyperinflation of the lung. As hyperinflation progresses the thorax assumes the inspiratory position and the diaphragms are depressed. Thus inability to empty the lungs impinges upon the inspiratory capacity, and ventilation is markedly limited.

Hyperinflation, sooner or later, causes disruption of alveolar walls resulting in a

decrease in the pulmonary vascular bed and loss of diffusing surface. Also the elastic stroma of the lung, being partially destroyed, is no longer capable of participating in the normally passive act of expiration. Forceful expiration, which then becomes necessary, by adding positive pressure from without, further increases bronchiolar obstruction. The disorganization of the pulmonary vascular bed, representing the perfusion function of the lung, is not always proportional to the defect in ventilation. This leads to areas in which perfusion is greater than ventilation and other areas in which ventilation is relatively greater than perfusion. Thus pulmonary function is further compromised and the otherwise limited ventilation capacity and perfusion surface is inefficiently used.

### Management of Compensated Pulmonary Emphysema

Although most of the anatomical changes in established chronic pulmonary emphysema are irreversible, many of the functional defects can be altered and improved by persistent treatment. The cardinal principles of management fall into three categories: (1) prevention; (2) treatment of bronchiolar obstruction; (3) improvement of the mechanics of respiration.

*Prevention.* There is increasing evidence that a large percentage of chronic bronchitis has its origin in childhood.<sup>1</sup> Recent studies indicate that incompletely treated acute lower respiratory infections in childhood may leave chronic residuals. Prolonged antibiotic treatment is recommended for children particularly susceptible to recurrent and relapsing infections.

In established chronic bronchitis all efforts possible to remove inhalant irritants is important. The chronically irritated bronchial mucosa over-reacts to many environmental factors including nonspecific dusts,

\*Read before the Meeting of the Tennessee State Medical Association, April 13, 1955, Chattanooga, Tenn.

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cold air and other climatic conditions. Most of these conditions, of course, cannot be altered but occasionally a careful history will reveal a particular irritant from which the patient may be protected. Inhaled tobacco smoke is unquestionably an irritant to the normal bronchial mucosa.<sup>2</sup> In the diseased state, it may be one of the most hazardous irritants. Vigorous denial of smoking is important as a measure to prevent progression of chronic bronchitis and the development of pulmonary emphysema.

The "ping-pong" relationship of upper and lower respiratory infections is well recognized. Any measures effective in reducing chronic upper respiratory infections is worthwhile. Chronically infected teeth have been implicated as a source of infection for the bronchial tree. Each exacerbation of acute bronchitis adds its increment to the permanent changes in chronic bronchitis. Vigorous and prolonged antibiotic treatment of every acute exacerbation may do much to delay the progression of the disease.

#### *Treatment of Bronchiolar Obstruction.*

**Antibiotics.** Recurrent acute infections add an element of bronchiolar obstruction both acutely and chronically. Where there is underlying chronic disease and the defenses against infection are already disturbed, it is necessary to treat acute and subacute flare-ups for longer periods of time than is usual in uncomplicated infections. Penicillin is usually used, in doses of 600,000 units daily and continued for one to six weeks, preferably the longer period. Where excessive suppuration exists and particularly if bronchiectasis is present, penicillin by aerosol may be more effective<sup>3</sup> (50,000 units in 1 cc. of diluent 5 times daily for three to six weeks). Broad spectrum antibiotics are recommended for severe acute infections and penicillin-resistant infections, but usually not for long-term treatment.

**Bronchodilators.** Some element of bronchospasm exists in the majority of cases of chronic bronchitis and pulmonary emphysema. Bronchospasm may be and frequently is a prominent feature. As a result of marked bronchial obstruction it is particularly disabling. Treatment is difficult and usually must be continued for prolonged

periods. The aerosol bronchodilators such as racemic epinephrin hydrochloride 2.25 per cent (Vaponephrin, Solution A and Isuprel have proved to be of great value. They are administered in 0.5 cc. doses 3 to 5 times daily with a nebulizer operated by a hand bulb, or by an oxygen tank delivering four to six liters per minute. These compounds have relatively little side effects, although they are not entirely without danger in the presence of cardiovascular disease. Neosynephrin 1 per cent given in the same dose is also effective but somewhat more apt to give side reactions. Tolerance to these drugs gradually develops but responsiveness returns after a period of abstinence. For prolonged treatment it is necessary to use them intermittently or better to alternate from one to another at three to four week intervals. Intravenous aminophyllin is valuable in acute episodes of bronchospasm. Aminophyllin rectally and the various ephedrin compounds orally are helpful in some mild cases. The use of bronchodilators and antibiotics, usually together, offers the most effective means of treating the element of bronchial obstruction.

**Other Measures.** Expectorants are useful for some patients and should be tried when there is difficulty in raising secretions. Potassium iodide (25 drops t.i.d. sat. sol.) has proven to be helpful, care being taken to avoid symptoms of iodism by building up the dose slowly (5 drops t.i.d. increasing one drop per dose per day). Postural drainage is profitably employed when purulent secretions are profuse. Aerosol detergents such as Alevoire (0.5 cc.) can be added to aerosol bronchodilators or antibiotics and may aid in penetration and absorption. In cases of severe bronchial disease a constant environment of detergent mist is recommended.<sup>4</sup> This can be provided by a constant nebulization of Alevoire (approximately 500 cc. daily) in a tent. Pancreatic trypsin<sup>5</sup> (Trypsin 125,000 u. aerosol 1 to 2 times daily) offers a means of enzymatic debridement of the bronchial tree, and may be used with success in cases of bronchiectasis and where profuse purulent secretions are not easily raised. Concomitant use of an antihistaminic preparation is said to control undesirable side reactions. Cortisone therapy may

have to be resorted to occasionally in order to relieve intractable bronchospasm, but should be used cautiously because of its detrimental influence on infection and heart failure if it exists.

#### *Mechanics of Respiration.*

Well established pulmonary emphysema imposes a serious mechanical disadvantage upon the mechanism of breathing. The obstruction to air flow and the loss of elastic recoil of the lung add considerably to the work of breathing. The inspiratory position of the thorax and the depression of the diaphragms not only limit ventilatory exchange quantitatively, but because of mechanical inefficiency, add further work to the act of breathing. Indeed, the work of breathing may in itself require a large proportion of the oxygen that the lung is capable of delivering.

Methods of increasing the excursion of the diaphragms frequently aid in improving the efficiency of breathing.

*Breathing Exercises.* Diaphragmatic breathing exercises<sup>6</sup> properly directed and conscientiously carried out are helpful to most and invaluable to a few. These simple exercises or their equivalent may profitably be made a part of the therapeutic program for almost every emphysematous patient approaching or past the point of pulmonary decompensation. In the recumbent position, the patient is taught diaphragmatic breathing by practicing breathing in such a way that the upper abdomen protrudes during inspiration and the thorax moves relatively little. When this phase is learned, the patient then adds upward pressure with both hands placed on the lower abdomen during the terminal phase of each expiration, until the abdominal muscles have been trained to take over this function. When the principle of proper diaphragmatic breathing is learned, continued practice is necessary until the new breathing habit becomes automatic. The exercise must be done at the beginning for two or three minutes at a time, 10 to 12 times daily, first in the recumbent position, then sitting and then standing.

The use of pneumoperitoneum and abdominal belts is based on the same principle of developing abdominal pressure to raise

the diaphragm during expiration in order to increase inspiratory excursion. Unless the abdominal muscles are unusually weak, the more natural methods of exercise training seems preferable.

#### *Failure of the Lung*

In progressive pulmonary emphysema the time comes when reduced pulmonary function is no longer capable of maintaining the normal oxygen saturation of the blood and hypoxia develops. Concurrently or later, carbon dioxide retention occurs. The transition into pulmonary insufficiency may be gradual and insidious or may be precipitated by an acute pulmonary infection. An acute exacerbation of failure in a patient with chronic pulmonary insufficiency becomes a medical emergency. Bronchodilators and antibiotics are urgently needed to combat obstruction, and oxygen therapy to relieve hypoxia. However, the rapid relief of hypoxia may lead to respiratory acidosis, due to carbon dioxide retention, and may result in an even more serious situation.

*Carbon Dioxide Narcosis.* In the state of chronic carbon dioxide retention a point is reached at which the respiratory center fails to respond to further increase in carbon dioxide tension. The stimulus for respiration then falls to the secondary mechanism governed by the arterial oxygen saturation. Under such circumstances, the relief of hypoxia by oxygen therapy removes the stimulus to respiration and hypoventilation occurs. Decreased ventilation results in an increase in carbon dioxide retention, and if this occurs rapidly severe respiratory acidosis appears, and drowsiness, coma and death may ensue.

*Oxygen Therapy.* The fear of carbon dioxide narcosis should not deprive the patient of oxygen therapy which he may urgently need. However, a policy of caution and careful observation is important. When carbon dioxide retention is suspected, and it should be in any patient with severe pulmonary emphysema, oxygen should be given cautiously (e.g. 3 liters per minute by nasal catheter). If there are no untoward reactions it can be increased gradually to normal levels. If hypoventilation is observed or drowsiness develops the oxygen flow must be reduced. Under such circum-

stances, by beginning at one liter per minute of oxygen flow by nasal catheter and increasing this a liter per minute per day will usually avoid the development of narcosis. If higher concentrations of oxygen are mandatory, giving it intermittently, 20 minutes at a time, may avoid severe respiratory acidosis.

*Narcotics and Sedatives.* The already depressed respiratory center in chronic pulmonary insufficiency is very susceptible to the respiratory depressant effect of drugs, particularly narcotics and barbiturates. A recent study<sup>7</sup> has emphasized the important fact that even relatively small doses (i.e. morphine 1/6 gr. or phenobarbital, 1 gr.) may seriously depress ventilation and lead to uncompensated respiratory acidosis and coma. As a rule these drugs should not be used in any patient in chronic lung failure.

#### Pulmonocardiac Failure

After chronic pulmonary insufficiency becomes established the patient with progressive pulmonary emphysema sooner or later is apt to develop heart failure. The destruction of the pulmonary vascular bed, the effect of anoxia and other factors, lead to pulmonary hypertension, which in turn may result in failure of the right ventricle and the appearance of the clinical picture of pulmonary heart disease (cor pulmonale). Pulmonary congestion, usually present in acute episodes of failure, will further add to the respiratory embarrassment. In addition to treatment of pulmonary failure as above, cardiac insufficiency must be dealt with, mainly by digitalization and the use of mercurial diuretics. When polycythemia is present, phlebotomies are indicated, care being taken to avoid reducing circulating hemoglobin below the normal level.

The presence of pulmonary insufficiency may sometimes pass unsuspected. Chronic carbon dioxide retention by depressing the respiratory center often decreases the symptom of dyspnea, even to a point where it may be relatively inconspicuous. In the presence of heart failure, signs and symptoms of pulmonary disease may be entirely overlooked. It is then that the uncontrolled use of oxygen and the use of narcotics and sedatives are sometimes most disastrous. Pulmonary disease, particularly emphyse-

ma, is a common cause of heart failure, often attributed to arteriosclerotic heart disease which may be playing a much less significant role.

#### Summary

A brief discussion of current management of chronic pulmonary emphysema is presented with an attempt to correlate therapy with the anatomic and physiologic alterations.

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#### Discussion

DR. LELAND M. JOHNSTON (Jackson): Dr. Goodwin has presented an excellent paper and left very little to discuss.

Most of these patients are first seen in our offices. Many who have emphysema have been mistakenly treated for heart disease. The immediate problem is to quickly and accurately decide the cause for the shortness of breath, cough and wheezing. After destructive lung lesions have been ruled out, the diagnosis usually boils down to a differentiation between heart disease and emphysema. There is no substitute for an accurate history and physical examination. Certainly the next most practical approach to these patients is fluoroscopic examination.

In emphysema alone the heart is not enlarged, there is no congestion of the root regions, the diaphragms are low and flattened, there is diminished excursion of the diaphragms and the retrosternal air space is increased. It is the relatively rare case with as enlarged heart plus physical and fluoroscopic evidence of emphysema that requires expert evaluation with special pulmonary function tests. When there is doubt, the patient should be referred to a center which is equipped to make these studies and accurately evaluate the patient for treatment.



*The authors review their experiences with the types of hysterectomies done and the indications for operation.*

## INDICATIONS FOR HYSTERECTOMY\*

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What are the indications for hysterectomy? Have you asked yourself this question lately? When the present day indictments of the operating doctor by the lay press and even by members of our own profession, it behooves all of us to take stock and review the indications for hysterectomy. Most of the newspaper and magazine publicity reflects on unnecessary surgery. No doubt, there is still unnecessary surgery being done, but most hospitals are rapidly correcting this problem. On the other hand, I believe it is more important to evaluate the type of hysterectomy performed, in relation to the indications. That is, each patient must be individualized. Does she need a vaginal hysterectomy with repair, does she need an abdominal hysterectomy because of adnexal pathology, or will a combined procedure be necessary? Of course the surgeon, internist and general practitioner meet this problem more often, yet most all doctors face the question sooner or later, regardless of his specialty. And it is with this study that we hope to improve our own ability to solve the problem of "Indications for Hysterectomy."

The primary objective of any physician who undertakes the responsibility of a gynecological problem should be to restore the function of the genital organs to as nearly normal as possible, regardless of whether surgical or medical treatment is indicated. The man who does not perform surgery should not overstep his bounds and continue to treat a patient for abnormal vaginal bleeding when she needs a diagnostic D & C, biopsy or a hysterectomy. Nor, should the surgeon rush the patient into the operating room to do a hysterectomy without thorough diagnostic evaluation.

The reason we bring up these points is that actually the indications for hysterecto-

my have not changed too much in the past decade. Although these indications are fairly clear cut, in many cases the type of hysterectomy is often poorly chosen. All of us have seen cases of prolapsed cervical stump following supracervical hysterectomy and cases of stress incontinence following total abdominal hysterectomy, resulting from failure to maintain or repair the pelvic supports. We have seen cases of carcinoma of the cervical stump which must have been present at the time of the hysterectomy. A thorough history and careful pelvic examination is still paramount in all cases. The least suspicious cervix should be biopsied. A diagnostic curettage should be performed in most cases where there has been abnormal bleeding and hysterectomy is contemplated.

Then, hysterectomy should be elected on the basis of the pathologic change present, that is, relaxations of the pelvic floor, uterine and/or adnexal disease and the desire or ability to preserve the childbearing functions.

When, because of disease process, it becomes necessary to remove the childbearing functions by hysterectomy, the surgeon must maintain or restore the other physiological processes pertaining to the female genitalia. This requires:

- (1) Preparation of the patient mentally. (Adequate time spent here will avoid many headaches later.)
- (2) Selection of an operation that:
  - (a) Eradicates the disease or condition present.
  - (b) Does not endanger the patient's life unnecessarily.
  - (c) Maintains or restores the pelvic supports.
  - (d) Does not interfere with her sexual functions.

### Material Studied

This study involves 205 consecutive instances of hysterectomy performed by Dr.

\*Read before the Meeting of the Tennessee State Medical Association, April 13, 1955, Chattanooga, Tenn.

Bullard and myself during the period 1951 through 1954, a small number admittedly. However, I believe every surgeon should evaluate his work periodically. This analysis represents a study of work done, not a series of cases to prove any one point. There is a difference. Likewise, this analysis is not for the purpose of reopening the argument of the merits of vaginal hysterectomy versus abdominal hysterectomy except, in so far as each satisfies the prerequisites set forth previously. We feel that the surgeon should be equally proficient in either the abdominal or vaginal approach. That total hysterectomy should always be effected except in extenuating circumstances is now an established fact. Table 1 illustrates the number of cases done by each method.

Table 1

| Operation   | No. of Cases | Percent-age |
|---|--------------|-------------|
| Total abdominal hysterectomies                                | 104          | 50.7        |
| Vaginal hysterectomies  | 93           | 45.4        |
| Subtotal abdominal hysterectomies                             | 8            | 3.9         |
| Total   | 205          | 100.0       |
| <i>Reasons for subtotal hysterectomy (8 cases)</i>            |              |             |
|   |              | No. Cases   |
| Severe endometriosis  |              | 3           |
| Pseudomyxoma peritonei  |              | 1           |
| Ruptured uterus (critical condition)                          |              | 1           |
| Intraligamentary papillary serous cystadenocarcinoma          |              | 1           |
| Interruption of pregnancy and sterilization                   |              | 1           |
| Porro cesarean hysterectomy for fibromyomas obstructing labor |              | 1           |

Table 2

| Age         | Total Hyster-ectomies | Vaginal Hyster-ectomies | Subtotal Hyster-ectomies | Total |
|-------------|-----------------------|-------------------------|--------------------------|-------|
| 20-29       | 14                    | 6                       | 2                        | 22    |
| 30-39       | 34                    | 27                      | 2                        | 63    |
| 40-49       | 39                    | 37                      | 2                        | 78    |
| 50-59       | 13                    | 12                      | 2                        | 27    |
| 60-69       | 4                     | 11                      | 0                        | 15    |
| Total Cases | 104                   | 93                      | 8                        | 205   |

Table 2 shows the age distribution and the type of hysterectomy performed. This shows that in the age group from 20 to 39 there were more indications for abdominal hysterectomy, because the common diseases encountered in this age group more often require this approach, that is, fibromyomas, ovarian tumors, pelvic inflammatory disease and endometriosis. From age

40 to 59 the types of hysterectomy are about equal, whereas, from 60 to 69 we see a higher percentage of vaginal hysterectomies, at which age the indication is more often for relaxation due to childbirth than any other cause.

Tables 3, 4 and 5 show the extent of the surgery performed.

Table 3

## TOTAL ABDOMINAL HYSTERECTOMY (104 CASES)

|   | No. Cases |
|---|-----------|
| Hysterectomy                                  | 27        |
| Hysterectomy, bilateral salpingo-oophorectomy | 44        |
| Hysterectomy, partial removal of adnexa       | 29        |
| Hysterectomy, radical, with node dissection   | 4         |
| Total   | 104       |
| <i>Additional procedures</i>                  |           |
| Previous D & C's (1 or 2)                     | 25        |
| D & C   | 21        |
| Appendectomy                                  | 6         |
| Omentectomy (for carcinoma of ovary)          | 6         |
| Colpoperineorrhaphy                           | 4         |
| Anterior colporrhaphy, colpoperineorrhaphy    | 1         |
| Anterior colporrhaphy                         | 1         |
| Left uretero-cysto anastomosis                | 1         |

Table 4

## VAGINAL HYSTERECTOMY (93 CASES)

|   | No. Cases |
|---|-----------|
| Vaginal hysterectomy, anterior and posterior repair | 74        |
| Vaginal hysterectomy, posterior repair              | 16        |
| Vaginal hysterectomy, anterior repair               | 1         |
| Vaginal hysterectomy                                | 2         |
| Total   | 93        |
| <i>Additional procedures</i>                        |           |
| Previous D & C (1 or more)                          | 14        |
| D & C   | 67        |
| Bilateral salpingo-oophorectomy                     | 4         |
| Unilateral salpingo-oophorectomy                    | 1         |
| Unilateral oophorectomy                             | 2         |
| Cautery urethral caruncle                           | 1         |
| Stripping Skene's glands                            | 1         |
| Hemorrhoidal tag                                    | 1         |

Table 5

## SUBTOTAL ABDOMINAL HYSTERECTOMY (8 CASES)

|   | No. Cases |
|---|-----------|
| Hysterectomy, only                            | 3         |
| Hysterectomy, bilateral salpingo-oophorectomy | 5         |
| Total   | 8         |
| <i>Additional procedures</i>                  |           |
| Appendectomy                                  | 1         |
| Colostomy                                     | 1         |

### Unsuspected Uterine Disease

We removed one unsuspected carcinoma in-situ of the cervix by vaginal hysterectomy. The least suspicious cervical lesion should have a biopsy. We feel that all patients having abnormal bleeding should have a curettement before, or at the time of hysterectomy unless the uterus contains fibroids too large for the use of irradiation in case there is an endometrial carcinoma present. Of 104 addominal hysterectomies performed primarily for gynecological reasons, 52 or 50 per cent had abnormal bleeding; of the 52 cases 25 curettements were done prior to the hysterectomy and seven cases of malignancy found. Twenty-one other cases had a curettement at the time of hysterectomy and no evidence of malignancy found. Of 93 vaginal hysterectomies performed 44 patients had had abnormal bleeding. Previous curettages had been performed in 14 cases revealing adenocarcinoma of the endometrium in one case. However, there were 67 curettements performed at the time of the vaginal hysterectomies.

### Discussion of Indications

There are several obstetrical indications for hysterectomy not illustrated in this series notably, Couvalier uterus, chorionepithelioma, cornual ectopic pregnancy and cesarean hysterectomy for sterilization purposes only. The latter seems to us to be a radical means of accomplishing the goal, we prefer simple tubal ligation, feeling that hysterectomy is more hazardous at this time. (Table 6.)

Table 6

#### OBSTETRICAL INDICATIONS (8 CASES)

|   | No.<br>Cases |
|---|--------------|
| Ruptured uterus                                   | 2            |
| Atonic uterus at cesarean section                 | 1            |
| Placental site necrosis                           | 1            |
| Placenta praevia accreta                          | 1            |
| Multiple fibroids obstructing labor               | 2            |
| Interruption of early pregnancy and sterilization | 1            |
| Total   | 8            |

In this series of primary gynecologic indications for abdominal hysterectomy (Table 7) the indication of fibromyoma is at

Table 7

#### INDICATIONS AND PATHOLOGIC FINDINGS

##### Primary Gynecological (104 Cases)—Abdominal Hysterectomy

| Indications  | No.<br>Cases |
|--|--------------|
| Fibromyomas  | 48           |
| Adenomyosis  | 5            |
| Adenocarcinoma of endometrium  | 4            |
| Adenoacanthoma of endometrium  | 1            |
| Squamous cell carcinoma of cervix, Stage I                                   | 2            |
| Ibid., with early pregnancy  | 1            |
| Carcinoma in-situ, cervix  | 4            |
| Ovarian tumors   | 12           |
| Dysfunctional bleeding, one or more previous D & C's                         | 7            |
| Late post-irradiation bleeding   | 2            |
| Dysfunctional bleeding, previous ligation                                    | 2            |
| Dysfunctional bleeding, previous bilateral salpingo-oophorectomy             | 1            |
| Persistent leukorrhea, previous bilateral salpingo-oophorectomy              | 2            |
| Cystocele and rectocele, pelvic pain previous irradiation for benign disease | 1            |
| Post-menopausal bleeding   | 1            |
| Pelvic endometriosis   | 4            |
| Chronic P. I. D.   | 8            |
| Pathologic Findings  | No.<br>Cases |
| <i>Uterus</i>  |              |
| Fibromyomas  | 57           |
| Fibromyoma and remnants of placenta  | 1            |
| Adenomyosis  | 25           |
| Adenocarcinoma of endometrium  | 4            |
| Adenoacanthoma of endometrium  | 1            |
| Carcinoma in-situ, cervix  | 4            |
| Squamous cell carcinoma of cervix  | 2            |
| Ibid., with early pregnancy  | 1            |
| Endometrial hyperplasia  | 10           |
| Endometrial polyps   | 7            |
| Cervical polyps  | 1            |
| Chronic cervicitis   | 61           |
| <i>Fallopian Tubes</i>   |              |
| Chronic salpingitis  | 8            |
| Tubo-ovarian abscesses   | 2            |
| Bilateral hydrosalpinx   | 3            |
| Tuberculosis   | 1            |
| Endometriosis  | 6            |
| <i>Ovaries</i>   |              |
| Dermoid cyst   | 4            |
| Endometriosis  | 8            |
| Chocolate cysts  | 8            |
| Serous cystadenoma   | 9            |
| Simple cyst  | 1            |
| Fibroma of ovary   | 1            |
| Pseudomucinous cystadenoma   | 1            |
| Granulosa cell tumor   | 1            |
| Papillary serous cystadenocarcinoma  | 4            |
| Pseudomucinous cystadenocarcinoma  | 1            |
| <i>Other Disease</i>   |              |
| Paro-ovarian cyst  | 1            |
| Peritoneal endometriosis   | 2            |
| Pseudomyxoma peritonei   | 1            |
| Lipoma epiploic appendage  | 1            |
| Endometriosis, sigmoid colon   | 1            |
| Metastasis papillary serous cystadenocarcinoma to omentum                    | 1            |

the top of the list with 48 cases (or 46.1 per cent). There were 58 cases in which fibromyomas were present, however, four cases so diagnosed turned out to be other lesions, showing 14 cases where the indication was



more than fibroids per se. Hysterectomy is indicated when fibromyomas cause pain, pressure, bleeding or cannot be differentiated from ovarian tumors. Other indications of uterine origin were adenomyosis, dysfunctional bleeding, adenocarcinoma of endometrium, carcinoma in-situ of the cervix, and invasive carcinoma of the cervix.

In 12 cases the indication for operation was ovarian tumor or tumors and there were 4 cases of endometriosis, 8 cases of pelvic inflammatory disease contributing 23 per cent. Thus, approximately 69 per cent of the abdominal hysterectomies were done because of fibromyomas, ovarian tumors, endometriosis and pelvic inflammatory disease.

Table 8

INDICATIONS AND PATHOLOGIC FINDINGS  
Primary Gynecological; Vaginal Hysterectomy

| Indications   | No.<br>Cases |
|---|--------------|
| Cystocele, rectocele, 1-2 prolapse  | 20           |
| Cystocele, rectocele 1-2 prolapse, dysfunctional bleeding                       | 15           |
| Cystocele, rectocele  | 10           |
| Cystocele, rectocele, chronic cervicitis  | 7            |
| Cystocele, rectocele, dysmenorrhea  | 8            |
| Cystocele, rectocele, fibroids  | 9            |
| Cystocele, anteverted uterus, fibroids  | 1            |
| Procidentia   | 5            |
|   | 75           |
| Fibromyomas   | 7            |
| Dysfunctional uterine bleeding no response to D & C & medical treatment         | 6            |
| Dysfunctional uterine bleeding, chronic cervicitis, rectocele and sterilization | 4            |
| Adenocarcinoma of endometrium, postirradiated in obese multipara                | 1            |
|   |              |
| Pathologic Finding  | No.<br>Cases |
| <i>Uterus</i>   |              |
| Fibromyomas   | 33           |
| Adenomyosis   | 22           |
| Chronic cervicitis  | 78           |
| Endometrial hyperplasia   | 18           |
| Endometrial polyps  | 10           |
| Carcinoma in-situ, cervix   | 1            |
| Adenocarcinoma of endometrium   | 1            |
| Cervical polyp  | 1            |
| Wolffian Duct cysts uterus  | 1            |
| No disease  | 1            |
| <i>Ovary</i>  |              |
| Chocolate cysts   | 2            |
| Serous cystadenoma  | 1            |
| Granulosa cell tumor  | 1            |

Of the vaginal hysterectomies (Table 8) there were 40 cases (or 43 per cent) performed for repair and other disease; there were 35 instances (or 37.6 per cent) performed primarily for relaxation due to childbirth, that is, cystocele, rectocele and prolapse of varying degrees. Thus 80.6 per

cent of the vaginal hysterectomies included anterior and posterior repair, whereas only six (or 5.8 per cent) of the abdominal operations were accompanied by reparative measures. Operations for childbirth due to relaxations are postponed as long as possible, preferably until the family has been completed, at which time a more permanent and complete repair can be accomplished. We feel that repair of the cystocele and rectocele with vaginal hysterectomy offers the best results.

Adenocarcinoma of the endometrium seems to be treated best by intracavitary radium of multiple sources, to deliver a total dose of approximately 5,000 mg.-hours of radium followed in four to six weeks by total abdominal hysterectomy and bilateral salpingo-oophorectomy. In a patient who is obese and a poor operative risk, vaginal hysterectomy and bilateral salpingo-oophorectomy can be performed, omitting any repair work.

In carcinoma in-situ of the cervix we prefer a cold-knife conization with block multiple sections to rule out invasive carcinoma. Then vaginal or abdominal hysterectomy may be performed according to other indications present.

Invasive carcinoma of the cervix still remains a problem. We do not wish to bring up the argument of the merits of surgery versus irradiation, and we are not advocating that every surgeon attempt radical surgery on these cases. Again each case must be considered individually. We do feel that radical abdominal hysterectomy with pelvic lymphadenectomy has merit in selected cases of stage I carcinoma of the cervix. The surgery must be complete and radical, otherwise it is worse than no treatment at all. Likewise, in such a case irradiation would be much superior. It is our impression that the cases which could be treated surgically have been more comfortable and have a better emotional outlook because the primary cancer has been removed.

In dealing with pelvic inflammatory disease, of course, the extent of the disease dictates the extent of the surgery necessary. In general, when it is necessary to remove both tubes a hysterectomy should be done to avoid dysfunctional bleeding, discharge

and possibly a minor factor, carcinoma of the cervix. Once the tubes are removed the uterus is of no value. Pelvic tuberculosis is best treated by dihydrostreptomycin, isoniazid followed by total abdominal hysterectomy and bilateral salpingo-oophorectomy.

Hysterectomy is indicated in premenopausal bleeding which does not respond to curettement. It seems that in about two-thirds of these cases one or two curettements will rule out cancer and control the bleeding. However, the remainder require hysterectomy, usually the vaginal type. We feel that hormones should not be used for fear of masking a cancer. We feel that surgery is preferable to irradiation, particularly with the recent evidence published that carcinoma of the endometrium has been found to occur more often in cases previously irradiated for benign bleeding.

Hysterectomy seems to be the only answer in cases of uncontrolled dysfunctional bleeding and incapacitating dysmenorrhea in the patient in whom childbearing is not a factor. By uncontrolled dysfunctional bleeding, we mean after two or three curettements and medical therapy has been exhausted.

In general malignant tumors of the ovary are best treated by total hysterectomy, bilateral salpingo-oophorectomy and omentectomy. Occasionally, if having a child is of extreme importance and the patient wishes to take the risk in a low grade granulosa cell carcinoma or a similar low grade cancer, the uterus and other ovary can be preserved. In a young woman this question should be thoroughly discussed before operation so the surgeon's hands will not be tied. Frozen sections should be taken on both ovaries to avoid leaving another cancer behind.

In endometriosis the decision usually is fairly clear cut preoperatively unless the extent of the disease is grossly misjudged, which can happen to anyone. We operate on these cases for two reasons, (1) to try to stop the growth of endometriosis and facilitate childbearing or (2) in the severe cases to relieve the pain or bleeding secondary to the endometriosis, if operation has been postponed as long as possible, so that a complete hysterectomy and bilateral salpingo-oophorectomy can be done.

Occasionally, vaginal hysterectomy is used for sterilization purposes where the patient has a bed cervix, retroversion, rectocele or other minor factors. We feel a vaginal hysterectomy can be done just as easily and with as little morbidity as tubal ligation.

And finally, in medical indications for interruption of pregnancy and sterilization a subtotal hysterectomy, which can be done quickly, seems to be the best procedure.

Other indications for hysterectomy not found in this series are sarcoma of the uterus, malignancies of the fallopian tubes and fibrosis uteri. Our pathologists do not seem to find the latter condition and I do not really know what it is either.

### Complications

There were no deaths. We had the average number of minor complications such as cystitis, cuff infections, and temperature elevations of undetermined origin. However, we feel that more important are the complications that endanger a patient's life or might disable the patient in any way.

Table 9

COMPLICATIONS, 205 HYSTERECTOMIES

|  | Total<br>Abdom-<br>inal | Vaginal | Subtotal | Total No.<br>Cases |
|--|-------------------------|---------|----------|--------------------|
| Retroperitoneal postoperative hematoma*            | 2                       | 0       | 0        | 2                  |
| Opening bladder                                    | 2                       | 2       | 1        | 5                  |
| Vesicovaginal fistula and postoperative hemorrhage | 1                       | 0       | 0        | 1                  |
| Interruption of left ureter†                       | 1                       | 0       | 0        | 1                  |
| Persistent pyelitis                                | 1                       | 0       | 0        | 1                  |
| Shortened vagina                                   | 0                       | 1       | 0        | 1                  |
| Thrombophlebitis, one leg                          | 3                       | 1       | 0        | 4                  |
| Postoperative psychosis†                           | 2                       | 0       | 0        | 2                  |
|  | Total                   |         |          | 17                 |

\*Two cases given Depo-Heparin postoperatively 48 hours, prophylactically.

†Ruptured uterus into left broad ligament.

We do not consider opening the bladder accidentally a serious hazard if recognized and repaired properly. Our one case of vesicovaginal fistula resulted from accidentally placing a suture in the bladder during the performance of a Porro-cesarean hysterectomy. She bled from the bladder four hours postoperatively and later developed the fistula which was easily repaired by the Latzko technic five months later.

The two cases of retroperitoneal hematomas appeared after two patients were given Depo-Heparin postoperatively. They were poor risk patients, one of which had an intraligamentary carcinoma of the ovary and a history of previous bilateral thrombophlebitis.

The ligation of a ureter and the one case of psychosis were in the same patient. She had been sent in from an outlying hospital with a spontaneous rupture of the uterus, not in labor, that ripped open the whole left side of the uterus and split the left broad ligament up to the bifurcation of the left common iliac arteries. After re-implantation of the ureter into the bladder and hysterectomy she was well on her way to recovery when she tried to jump out the fifth floor window of the hospital. Fortunately an aid caught her by one leg. She was transferred to a closed ward and given shock therapy and Thorazine. She recovered completely.

The other patient with a psychosis was under care of a psychiatrist at the time of operation and in spite of all our efforts became rather disturbed postoperatively. Her psychiatric status now is much improved since her hysterectomy for uncontrolled dysfunctional bleeding.

### Results

Except for the following cases the desired results were obtained.

1. One patient having stress incontinence, cystocele and rectocele which were treated by vaginal hysterectomy with anterior colporrhaphy and colpoperineorrhaphy developed recurrence of stress incontinence. She needs, but has refused, a Marshall-Marchetti type of operation.

2. One case of endometriosis had to be operated upon again ten months later. This was a case of severe endometriosis associated with a chronic pelvis inflammatory disease of known 20 years duration where only a supracervical hysterectomy could be done because of technical difficulty. We thought all ovarian tissue was removed. However, we had to operate again to remove a 5 cm. mass of endometriosis of the ovary and a painful cervical stump.

3. One instance of shortened vagina followed vaginal hysterectomy for procidentia.

4. We have had one recurrence of carcinoma and of the ovary two and a half years postoperatively. The carcinoma invaded the left pelvic wall,—the patient was obese and a poor operative risk. Possibly we should have left the uterus and used intracavitary irradiation with X-ray treatment externally as does Kottmeier, in Stockholm.

(NOTE: The four patients treated by radical surgery are free of the disease clinically. The one having carcinoma of the endometrium with invasion of the cervix is free of disease after four years; one having carcinoma of the cervix and pregnancy is free after three years; one having carcinoma of the cervix is free two years; one having carcinoma of the cervix is free one year and three months. The time elapsed does not allow real consideration of results, except for the patient's comfort and emotional outlook.)

In reviewing these cases we were surprised to have so few major complications. We ascribe this to good luck, antibiotics, early ambulation, good blood banks, preoperative medical work-ups, good nursing care and, something I think very important, the excellent anesthesia rendered by the anesthesiologist group here in Chattanooga.

### Summary

1. Two hundred and five cases of hysterectomy have been reviewed including complications and results.

2. Our indications for hysterectomy have been presented, our relative indications for the various types of hysterectomy reviewed.

3. Total hysterectomy should be performed except in extenuating circumstances which would subject the patient to undue risk.

4. Each patient must be considered individually. In considering hysterectomy, the operation should be designed to return the patient, both physically and mentally, to as nearly normal as possible, with reasonable assurance that she will not require future pelvic surgery, regardless of whether this procedure requires the vaginal, abdominal or combined approach.

### References

1. Kottmeier, H. L., *Carcinoma of the Female Genitalia*, Baltimore: The Williams and Wilkins Co., 1953, p. 179.



### Discussion

DR. WILLIAM F. MACKEY (Memphis): Mr. Chairman, Gentlemen: I would like to congratulate Dr. Hutcherson on a well worked up and excellently presented paper. This practical type of paper, written from a gynecologist's private patients is more valuable to those of us in private practice than those papers coming from charity services in large centers. We can better apply Dr. Hutcherson's findings to our own practice than we can exhaustive detailed research reports.

It is impossible for me to analyze or to attempt a detailed discussion of this most complete paper in the time allotted. However, there are two pertinent points which I feel are extremely important and should be emphasized.

*First.* The parametrium. We believe the parametrium to be the most neglected structure in the pelvis with regards to,—(1) recognition of symptoms caused from chronic parametrial disease, and (2) proper treatment of parametrial disease. Symptoms may be of varying degrees from constant or intermittent pelvic pain and tenderness, even to complete incapacitation. Pelvic pressure, dyspareunia mild to severe, dysmenorrhea and irregular bleeding are all manifestations at times of parametrial disease. Exacerbations and quiet periods are common and may extend over many years. We recently performed the seventh pelvic operation on a patient who had had six previous pelvic operations for intractable pain, tenderness, and dyspareunia. The previous operations had not relieved her discomfort and at each operation more pelvic organs were removed until a long cervical stump with a very tender parametrium was all that remained for us to evaluate. Removal of the cervical stump and surrounding parametrium relieved her pain for the first time in 18 years. Many times the patient, on consulting you, has had previous pelvic surgery. She may have been explored with the report being that the tubes, ovaries, and uterus were normal. Appendectomy and suspension were done and the patient still has the same pelvic pain and discomfort.

Physical findings of parametrial disease are usually tenderness on pressure in the parametrium and pain on motion of the cervix usually in all directions.

Gross findings are those of thickening and friability, increased vascularity, thrombophlebitis, and edema. Microscopic section shows thrombophlebitis, edema, and infiltration with inflammatory cells.

Treatment in the younger age group should be more conservative, as, building up the general

physical health, rest, hot douches, antibiotics, and intensive diathermy. These will relieve or palliate in many cases. However, if conservative methods fail surgery is the only recourse. Total hysterectomy and often bilateral salpingo-oophorectomy must be done. This procedure does not remove much of the parametrium, but evidently releases the tension and allows the connective tissue to reach a quiescent stage after which the body's absorptive powers will complete the healing. In many of our patients the parametrium is tender for up to a year after operation. Nearly always in a year the patient's absorptive powers have cured the disease. We inform the patient that surgery will begin the cure, but that several more months may usually elapse before all tenderness is gone. It goes without saying that other pelvic disease may be and usually is encountered associated with parametritis. We do not like the term chronic P.I.D. and do not use it in our office. One should say whether the patient has salpingitis, oophoritis, endometritis, cervicitis, or parametritis.

*Second.* The Subtotal Hysterectomy. Dr. Hutcherson has shown in his paper that he and Dr. Bullard did 8 subtotal hysterectomies in 205 cases. In doing these 8, they used excellent surgical judgment in that they eradicated the disease present and did not endanger the patient's life unnecessarily. In my study of these 8 cases, I believe that had Drs. Hutcherson and Bullard done total hysterectomies, they would have unduly endangered the patient's life. I am stressing this point because I feel very strongly that the subtotal operation is not completely outdated. It is outdated to the extent that a well trained surgeon will do almost only total operations, but will not hesitate to do the less hazardous procedure when circumstances dictate. Our own practice reflects about the same per cent of subtotal hysterectomies as Drs. Hutcherson's and Bullard's, and done for essentially the same reasons.

In our recent survey of hysterectomies done in three large Memphis private hospitals, it was shown that 45 per cent of hysterectomies done in Memphis are still of the subtotal variety, and that at operation very few of the cervical stumps which were left had any treatment for cervical disease. Of course, one of the arguments for not leaving the cervical stump is that of subsequent development of carcinoma of the stump. We plead, if you do the subtotal operation, do a wide conization of the cervix (removing the squamocolumnar junction and endocervical canal). This one simple procedure cuts the incidence of the development of carcinoma of the cervical stump to zero.

## CLINICOPATHOLOGIC CONFERENCE

### Auricular Thrombus in Rheumatic Heart Disease\*

F. H. Knox, M.D., and J. M. Young, M.D.  
Memphis, Tenn.

*Case Presentation:* This 59 year old retired railroad freight handler entered with complaints of ankle edema and increasing shortness of breath. At the age of 13 he experienced transient stiffness and pain in his wrist and ankles. Twelve years prior to admission here he developed "palpitation and tachycardia" following drinking of ice water. This episode continued for three weeks despite hospitalization and digitalis therapy. Following this the patient continued digitalis in daily doses, noted weakness and was easily fatigued. These symptoms gradually increased through the years and he gradually developed exertional dyspnea and orthopnea requiring use of two pillows. He had been hospitalized about thirty times at various places.

Three weeks prior to admission he noted for the first time pedal edema. This had followed a shot of cortisone given by his local physician when the patient developed "a tender spot on his right knee."

*Physical Examination:* Temperature, pulse and respiration normal. Blood pressure 124/80. The patient was described as emaciated and chronically ill. Eyes, ears, nose and throat not remarkable. There was marked increase in the A-P diameter of the chest and respiratory excursion was minimal. Both lung bases were dull to percussion. Breath sounds were faint over the right lung base, and moist rales were present bilaterally. The left border of cardiac dullness was at the anterior axillary line. The cardiac rhythm showed an irregular irregularity. The second aortic sound was louder than the second pulmonic, and there was a marked murmur of aortic regurgitation. There was a "squeaking systolic murmur" at the apex. The liver was enlarged and firm but its exact extent below the costal margin could not be determined. There was 3+ ankle edema, some sacral edema, and edema of the prepuce.

*Laboratory Data:* Red cell count 5.93 million, Hgb. 17.5 Gm., white cell count 7,650 with 84 per cent polys. Hematocrit 52 per cent. Sedimentation rate 19 mm. per hour corrected. Serologic test for syphilis negative. Urinalysis revealed only a trace of albumin. NPN 33 mg. per cent. Serum bilirubin 1.0 mg. per cent. Total proteins 6.3 Gm.% with an albumin-globulin ratio of 2.7/3.6. Prothrombin time 100 per cent.

*X-Ray:* Chest film revealed right-sided pleural

effusion and a large heart with prominence of the pulmonary artery segments.

*Electrocardiograms:* The first EKG showed auricular fibrillation, left ventricular enlargement and frequent ventricular premature contractions. A second one two days later revealed combined ventricular enlargement and electrical alternans. The last EKG taken on the day of death revealed rhythm varying from regular sinus to auricular fibrillation to auricular tachycardia with 2:1 block.

*Course:* The patient was placed on a bland low salt diet, digitalis, bed and chair rest; mercurial diuretics were used without significant effect. His appetite was poor and he frequently complained of marked weakness and faintness. On his fourteenth (and final) hospital day his pulse became weak and thready and his extremities cold and clammy. Blood pressure was 48/0. By the use of neosynephrin, Cedilanid and positive pressure oxygen the blood pressure was restored temporarily to levels of 140/100 but the patient never responded. Prior to death 1,400 cc. of clear yellow fluid was removed from the right pleural space.

DR. KNOX: After going over the protocol, it is apparent that what we are dealing with is a cardiac case, the patient giving a history of rheumatic activity at the age of 13 and who, at age 47, developed palpitation and tachycardia which required hospitalization and digitalization. This was followed by the gradual onset of congestive failure for which he was hospitalized some thirty times at various hospitals prior to his admission here. On admission to this hospital, the patient had a normal blood pressure, was in congestive failure, had pleural effusion, auricular fibrillation, and a murmur of aortic regurgitation. There was also noted on chest X-ray a large heart and prominence of the pulmonary artery segment. The patient was treated for congestive failure, did not respond, and expired in shock and apparently pulmonary edema.

It would be nice to end the discussion at this point on the basis of rheumatic heart disease, aortic insufficiency, pulmonary edema, cardiac dilatation, shock, and death, but, as is usual with some of these cases presented at Clinical Pathological Conference, there are a number of factors which do not fit with this diagnosis, and may well alter the final opinions in this case.

#### Factors to Be Explained and Coordinated

1. The course of the patient up to the final admission.
2. The blood pressure of 120/80 with a

\*From the Medical and Laboratory Services of the Veterans Administration Medical Teaching Group Hospital (Kennedy), Memphis, Tenn.

normal pulse pressure and absence of any peripheral signs of aortic insufficiency suggested as the predominant lesion.

3. The X-ray findings of a large heart with prominence of the pulmonary artery segment.

4. The presence of auricular fibrillation.

5. The course of the patient while under treatment in this hospital.

6. The mode of exodus of the patient.

There is a history of probable rheumatic activity at age 13, and then the patient apparently got along well until age 47 when he suddenly developed palpitation and tachycardia which required hospitalization and digitalis therapy. No doubt this was the onset of auricular fibrillation. Following this it was felt necessary to continue him on digitalis, but despite this he noted weakness and was easily fatigued. These latter complaints are early signs of cardiac decompensation. These complaints gradually increased through the years, and the complaints of exertional dyspnea and orthopnea were added. For bouts of cardiac decompensation he had been hospitalized thirty times at various places. With his cardiac condition this man has been able to survive 12 years with intermittent control of his congestive failure.

This clinical history immediately casts a doubt in my mind that aortic insufficiency is the predominant lesion or the whole answer to the problem in this case.

Rheumatic aortic insufficiency is known to remain asymptomatic for a long time. With aortic valvular disease the strong left ventricle along with an efficient mitral valve may prevent stasis and congestion in the lungs for many years. Patients with aortic valvular disease, although frequently complaining of chest pain and palpitation, have much less dyspnea as compared with those having mitral disease. They generally remain ambulatory and are able to work for a longer period of time without overt evidence of valvular disease. However, when cardiac decompensation does occur they do not have the recuperative powers commonly seen in patients with mitral stenosis. Once congestive failure supervenes in aortic insufficiency the outlook is grave and the course of the disease is rapid with termina-

tion usually in two to five years even with the best of care. This patient apparently had been treated many times for congestive failure over at least 12 years.

The history of this case, in my mind, is more in accord with mitral valvular disease than aortic valvular disease, especially mitral stenosis. With mitral stenosis, unlike an aortic valvular lesion, perfect compensation for a period of years is the exception rather than the rule. The limited compensatory power of the weak left auricle and the absence of an efficient valve between it and the pulmonary veins permit some degree of pulmonary congestion with exertional dyspnea relatively early in the course of the disease, as occurred in this case. With mitral stenosis, the first attack of acute rheumatic fever typically occurs in the first two decades. The patient may remain asymptomatic until 30 to 45 years of age when disability first appears. Thus, in many cases, 20 years usually elapse between the onset of acute rheumatic fever and critical narrowing of the mitral valve below 1.5 sq. cm. In some cases, the time lag may be only a few years, while in others the valvular stenosis is never sufficient to produce symptoms.

Another feature of this case that requires consideration is the description in the protocol of a marked murmur of aortic regurgitation and yet the blood pressure is given as 124/80 which represents a normal diastolic blood pressure, and a normal pulse pressure. These are not the usual findings with wide-open aortic regurgitation of dynamic significance. A low diastolic pressure and wide pulse pressure are characteristic of aortic regurgitation.

In addition to the absence of a low diastolic pressure and a wide pulse pressure, there is not mentioned in the protocol any of the other peripheral signs usually associated with wide-open or dynamic aortic insufficiency, such as the Corrigan pulse, de Musset's sign, capillary pulsations, Hill's, Traube's, or Duroziez's signs. The peripheral signs of aortic insufficiency, although in general not as helpful in the diagnosis of aortic insufficiency as the diastolic murmur, nevertheless are valuable when there exists combined valvular lesions. This is espe-



cially true with rheumatic aortic insufficiency.

Dexter et al.<sup>1</sup> state that the level of diastolic blood pressure serves as the most useful single measurement in determining the severity of aortic regurgitation. It is their opinion that if the resting diastolic pressure is maintained at 50 mm. Hg., or greater, the aortic regurgitation is clinically insignificant. Diastolic pressure between 30 to 50 mm. Hg. indicates the aortic regurgitation is of borderline severity. A diastolic pressure below 30 mm. Hg. is indicative of significant aortic insufficiency.

According to these criteria, the aortic insufficiency here is apparently not of much dynamic significance. This leads to interesting speculations. First, is the murmur that was described actually due to aortic insufficiency? Could it possibly be the Graham-Steell murmur of pulmonary insufficiency? Since the Graham-Steell murmur should be diagnosed only in the presence of mitral stenosis, then the electrocardiogram with this murmur should show right ventricular enlargement. Also, since the maximum intensity of the murmur heard was not described in the protocol, I am forced at present to accept the murmur as that of aortic insufficiency, for other than the history which is suggestive of mitral valve deformity, the presence of auricular fibrillation and the absence of peripheral phenomena, we have no concrete evidence that this is a Graham-Steell murmur, especially with the electrocardiogram showing left ventricular enlargement rather than right ventricular enlargement.

Secondly, if we accept the murmur as aortic insufficiency, but not dynamic enough to account for the course of this case, then we must ask ourselves is there another condition which is responsible in itself for this patient's difficulty, or is there another condition, which, in combination with the aortic insufficiency, is responsible. Let us explore the possibilities. Friedberg<sup>2</sup> states that rheumatic aortic insufficiency alone may occur but it is usually combined with mitral valvular disease.

Let us consider the auricular fibrillation that is present. Auricular fibrillation is most commonly found with arteriosclerotic

heart disease, hyperthyroidism and mitral stenosis. It occurs most frequently after 40 years of age. While it does occur on occasion with isolated aortic insufficiency, it is exceedingly rare for it to do so. This has been our experience here as well as that of others. Harrison<sup>3</sup> states that the relation of auricular fibrillation to rheumatic heart disease is of much interest. He feels that auricular fibrillation practically never occurs in patients with involvement of the aortic valve alone. It is likewise rare when mitral regurgitation with stenosis exists. It is also his opinion that auricular fibrillation is very common in persons with longstanding mitral stenosis, and that in such patients the onset of auricular fibrillation frequently converts a previously asymptomatic state into one of congestive failure. If you recall from our protocol, this patient apparently was doing well until he suddenly developed palpitation and tachycardia for which he was hospitalized, given digitalis and then gradually developed signs and symptoms of decompensation. Levine<sup>4</sup> has stated that when a patient has obvious aortic insufficiency and the question of additional mitral stenosis arises, if auricular fibrillation exists, both valves are probably involved. Now we have a history which is suggestive of mitral valve deformity, the presence of auricular fibrillation with a course of illness compatible with mitral stenosis. The possibility of another valvular lesion in addition to the aortic insufficiency is not now as remote as it previously was.

Is there any other information we can tie in with this idea? The X-ray findings are of interest. There are described the findings of a large heart with prominence of the pulmonary artery segment. With aortic insufficiency alone there is found the so-called "aortic configuration" of the heart. This consists of elongation down and to the left of the left ventricle. The aortic knob is prominent and the angle formed with the pulmonary artery segment is sharper than normal. You get the so-called boot-shaped heart. There is no prominence of the pulmonary artery segment. While you might see some evidence of "mitralization" of the aortic configuration with left ventricular failure, "mitralization" is more often seen with

mitral valve deformity. In addition, our examination of the X-rays showed left auricular enlargement and the latter is part of the picture of mitral stenosis rather than aortic insufficiency.

The patient's course while in the hospital and his mode of death deserve consideration. The patient was placed on acceptable therapy for control of his congestive failure but he did not respond to therapy. Among the possibilities as to why he did not respond to therapy must be considered electrolyte imbalance. We are given no studies to help us determine what part, if any, that might have played. Digitalis intoxication might have been a cause but I am more inclined to feel his poor appetite was on the basis of his congestive changes rather than digitalis intoxication. However, in favor of excess digitalis is the occurrence of a bout of electrical alternans and paroxysmal auricular tachycardia with 2:1 block. Pleural effusion of considerable degree may have been against response to therapy as it was apparently removed only shortly prior to death. While pleural effusion not infrequently is part and parcel of congestive failure it must be remembered that there are other causes of pleural effusion, such as pulmonary infarction, neoplasm, etc.

One thing we must not forget is that any time there is failure of response to treatment for congestive failure the possibility of pulmonary embolism should be considered. The number of times the diagnosis will be made is in direct proportion to the doctor's thinking of its possibility of occurrence.

Congestive failure with prolonged pulmonary congestion such as occurs with mitral stenosis is a major predisposing factor in pulmonary infarction. Pulmonary embolism should be considered whenever there is a sudden onset of collapse, dyspnea, cyanosis, weakness, especially in patients who have been mainly confined to bed for several weeks. Emboli may arise from the periprostatic plexus and from the legs. The likelihood of the development of atrial thrombi and consequent embolism is also much greater in subjects with auricular fibrillation than those with a regular rhythm. The absence of atrial contractions

favors stagnation and the development of mural thrombi and exposes the patient to hazards of embolization.

This patient with severe congestive failure developed collapse, shock, dyspnea, exacerbation of congestive changes, requiring the use of vasopressor drugs, positive pressure, and Cedilanid. There is nothing in the protocol suggesting that possibility of thrombophlebitis or phlebothrombosis, which is the most usual cause of pulmonary emboli, even with heart disease. As you know, there need be no objective findings for this to occur from the legs. However, here we have a case of rheumatic heart disease with suspected mitral valve deformity and at least aortic insufficiency, in severe congestive failure with auricular fibrillation, who developed shock, increasing dyspnea and orthopnea, and died. It is natural then to feel that embolization may well have occurred from mural thrombi.

Embolization with rheumatic heart disease is usually a complication of mitral stenosis, especially when the latter is associated with auricular fibrillation and right heart failure. Auricular thrombi are found in either atrium with right heart failure and only usually in the left atrium when there is no heart failure. Friedberg<sup>2</sup> states he has seen pulmonary emboli with infarction of the lung in one-half of his patients with mitral stenosis and right heart failure. Pulmonary embolism is usually not a single but a recurrent event.

I feel that this patient had, and died of, rheumatic heart disease with aortic insufficiency, relative mitral insufficiency, mitral stenosis and multiple pulmonary emboli with pulmonary infarction secondary to atrial thrombi. I would venture a guess on the basis of the work of the Dexter-Harkin group that the mitral opening probably was less than 1 sq. cm., on postmortem examination. Cardiac cirrhosis also is probably present.

The fact that no murmur of mitral stenosis was heard is somewhat disturbing but not insurmountable. The murmur of mitral stenosis may be difficult to hear at best. The presence of congestive failure and auricular fibrillation may alter the auscultation and, in addition, this patient had a

marked increase in A-P diameter of the chest, which would indicate pulmonary emphysema and possibly pulmonary fibrosis which would make auscultation still more difficult. I feel the clinical history of the patient, the X-ray findings, the presence of auricular fibrillation, the patient's failure to respond to treatment are in accord with the diagnosis given. In addition, when mitral stenosis and aortic insufficiency are present, the mitral stenosis causes a decreased filling of the left ventricle and diminishes the intensity of the physical signs of the aortic insufficiency. It would have been nice if the rest of the auscultatory pattern had been given, but more and more papers are being written in the past two years with the finding of mitral stenosis at either operation, or at necropsy, without the murmur being heard.

#### Final Clinical Diagnoses

1. Rheumatic heart disease with mitral stenosis, relative mitral insufficiency, and aortic insufficiency.
2. Multiple pulmonary emboli with pulmonary infarction, secondary to atrial thrombi.
3. Cardiac cirrhosis.
4. Pulmonary emphysema and fibrosis.

#### Anatomical Findings

DR. YOUNG: At necropsy the principal findings were limited to the chest. In the left pleural space were 750 cc. of straw-colored fluid, and in the right 2,000 cc. The left lung weighed 420 Gm. and the right 580 Gm. In the distal divisions of the pulmonary artery in both lungs were small friable bits of reddish-brown thrombus material and beyond some of these were small, reddish, firm, wedge-shaped areas typical of infarctions. The largest infarction was in the right lower lobe and measured 6 cm. in diameter on the pleural surface. The lung parenchyma on section disclosed moderate edema.

The heart weighed 1,020 Gm. There were firm ventricular walls and a massive left auricle filled with solid thrombus material, measuring 10 x 8 x 7.5 cm. When the heart was opened the valves measured: tricuspid 15.0 cm., pulmonic 7.7 cm., and aortic 8.5 cm. The mitral valve presented a typical mitral stenosis, admitting only the tip of a finger. The valve leaflets were deformed and markedly calcified. The left ventricular wall averaged 1.5 cm. in thickness and the right 0.6 cm. There was a small amount of reddish-brown granular thrombus material in the right auricular appendage. The left auricular cavity was filled to at

least three-fourths of its capacity with a large ovoid mass of brownish, firm thrombus attached by a broad base to the posterior wall of the auricle where it partly blocked the openings of the pulmonary veins. Its inferior surface partly blocked the mitral valve when the heart walls were together. On section the thrombus was laminated and its surface was smooth.

The other organs revealed only congestive changes.

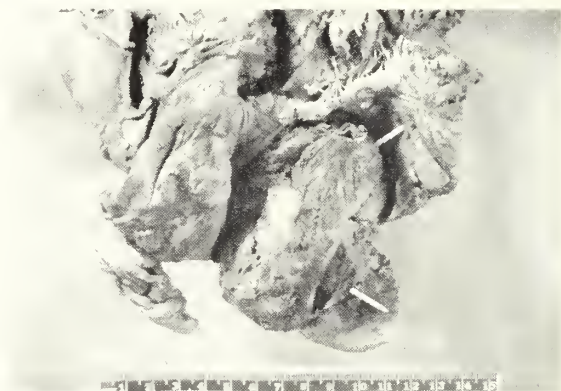


FIG. 1. Heart showing large occlusive thrombus mass in left auricle. The stenotic mitral valve has been fractured.

*Comment.* This very interesting heart displays the presence of a huge left auricular thrombus which partly obstructed both the inflow and outflow of the auricle. Occlusive auricular thrombi have been discussed fully by Wallach et al.<sup>5</sup> in 1953. They feel that the principal disturbance is not a ball-valve action of the thrombus but a reduction of the blood flow into the left ventricle. This may result from obstruction of pulmonary vein inflow, partial obstruction of the mitral valve, and decreased capacity in the left auricle. Certainly the thrombus acts as a space-occupying mass. In our case the murmur of mitral stenosis was not described during life and it is possible that the thrombus modified the murmur by interference with blood flow. There is most often a long-standing history of auricular fibrillation which allows the thrombus to build up to the large size. Since the thrombus has usually been present for a long time it is not thought to be responsible for the sudden death seen in many of these patients. More likely explanations would be progressive decrease of cardiac output until a critical point is passed and gradual increase of cardiac ischemia, which may result in such rhythm changes as ventricular



fibrillation. Many of these cases show peripheral signs of embolization but ours did not. Most instances of occlusive auricular thrombi have occurred in cases of rheumatic heart disease showing mitral aortic, and tricuspid stenosis. The age range in Wallach's<sup>5</sup> cases was 24 to 76 years.

#### Final Anatomical Diagnoses

1. Rheumatic heart disease with mitral stenosis and massive left auricular thrombosis.
2. Pulmonary emboli with pulmonary infarction, bilateral.
3. Pleural effusion, bilateral.

4. Congestion of lungs, liver, spleen and kidneys.

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## President's Letter

### COUNTY SOCIETIES

There are two types of local medical societies in the State Medical Association. There are those societies that are alive with the active interest of practically all of the doctors who are eligible for membership. These societies have regular meetings with good programs; they are interested in community problems; they participate in the various programs of the State Association; they have pleasant social affairs, usually in conjunction with their auxiliaries.

Then there is the other type of society which is really a medical society in name only. Even if these societies have regular meetings the attendance is so poor that there is no inspiration to the speaker to put on a stimulating program. The members are frequently unable to agree on the best answer to community problems and hence they are apt to go off in several directions at once and actually be working against each other, with the result that the society gets no credit for accomplishing anything constructive. These societies, even though they do not have more than five or ten members, are entitled to as much representation in the affairs of the Tennessee State Medical Association as are those societies which have fifty members, and yet they very often do not even send a delegate to the Annual Meeting of the Association.

Why is there such a vast difference in some counties which are in other respects comparable? It is not the size of the county, nor the number of doctors in it because some of the smaller societies are really a great credit to the Association, and some of the larger ones do not have the unity of action that they should have. I have visited enough societies of both types to believe that I know something of the background of those groups which are not getting the benefits of a good society. Several young men have expressed it to me in very much these words: "There is an unfortunate situation in our county. Dr. Black does not get along very well (a masterpiece of understatement!) with Dr. White, and since they are the leaders, the society is split and there is not much chance for an over-all pleasant relationship." That is a poor com-

mentary on leadership and indicates a need for new leaders who can muster the support of the entire group in carrying out the work of a good society for the mutual benefit of all. Then Dr. Black and Dr. White could follow and they could probably learn to be friends instead of enemies. The members of the poor societies may not realize what they are missing in the way of good scientific meetings; the benefit of working together for the solution of medical and other problems of their community; the pleasures of working with their confreres instead of against them; the enjoyment of social affairs with their fellow doctors and their wives; and the sense of satisfaction that should come from being a part of the tremendous program of the State Association.

Are you a member of a poorly functioning society? Then why don't you get together with the other members and revitalize your group? Put aside the old prejudices and forget the schisms of the past. The Woman's Auxiliary has done a great deal to promote good will in many counties—perhaps it could help in yours. If there are not enough doctors in your county to support a good society then take steps to join some of your neighboring counties. With good roads being what they are, distance is no longer the factor that it was many years ago and it is better to travel fifty miles to a good meeting once every three months than it is to go five miles to a poor meeting once a month. Some of the very best and strongest societies in the State are composed of the doctors from several counties.

If you need any help in such a change you should be able to get it from your Counselor. And our Executive Secretary, Mr. Ballentine, will also help in any way that he can.

Let's reorganize as much as is necessary in order that every doctor in the State can have the benefits and pleasures that go with membership in a good wide awake local society.



# THE JOURNAL

OF THE  
TENNESSEE STATE MEDICAL ASSOCIATION

Published Monthly

Devoted to the Interests of the Medical Profession of  
Tennessee

Office of Publication, 321-325 Doctors Building, Nashville,  
Tenn.

Acceptance for mailing at special rate of postage provided  
for in Section 1103, Act of October 3, 1917,  
authorized July 15, 1932.

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Address Public Service problems to Ed Bridges.

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JUNE, 1955

## EDITORIAL

### HAZARDS OF CANDY MEDICATION

A recent report by the Committee on Toxicology\* to the Council on Pharmacy and Chemistry of the A.M.A. contains a grave warning to doctors and parents.

The report considered the incidence of poisoning as a result of disguising drugs in the form of "candy medication." Accidental poisoning has its greatest frequency in preschool children, and drugs are responsible for 33 per cent of fatal poisonings. It is of interest that though over-all death rates in children in the United States and England are comparable, children's deaths from poisoning are four times greater in this Country. These facts made it imperative for the Committee of the Council to evaluate the possible place candy medication may hold in the problem.

It is of historical interest that Fantus, in 1912, formulated the basic requirements of candy medication and experimented with

them. It was only some decades later that their manufacture was begun, and now they make up one-third of the sales in the field of vitamins. The Report shows that antibiotics, antiepileptics, antihistamines, barbiturates, sulfonamides, salicylates and vitamins may be prescribed or purchased as candy medication. It appears they are made up in candy tablets, lollipops, chewing gum, rock candy, syrups, and as dispersible chocolate flavored powder (antibiotics) and granules (vitamins) to be added to cereals.

Fantus, forty years ago, recognized the dangers of cultivating a taste for candy medication and surreptitious overdosage, and warned against prescribing a total quantity as great as the toxic dose. Because of this inherent danger, many pediatricians refuse to use candy medication relying on the mother to disguise single doses by some means.

Since death reports generally do not give dosage and the form in which the fatal drug was taken, statistics are not available for the evaluation of candy medication. Candy aspirin permits of some information since it has been available on prescription since 1932 and for over-the-counter sale since 1948. In drug stores it makes up about 12 per cent of the aspirin sales. In the prewar period and a time when little of candy aspirin was used, 20 per cent of deaths were in preschool-age children. In the latest year (1951) of detailed mortality statistics 80 per cent of aspirin deaths occurred below the age of 5 years. By contrast the sale of, and the deaths due to oil of wintergreen (methyl salicylate) has remained quite static over the years, the death rate in the preschool-age group being 20 to 25 times greater than in the population at large.

There is need for more information on the factor of candy medication in drug poisoning in childhood. The Chicago Poisoning Control Center offers the most complete reports. Of the first 500 cases of this Center, 84 were due to aspirin. "Baby" aspirin was the preparation used in 73 of the 84 cases. Thus candy aspirin accounted for 14.5 per cent of total cases at the Center and for 87 per cent of the cases due to aspirin poisoning.

\*Report to the Council. Candy Medication and Accidental Poisoning, J.A.M.A. 158:44, 1955.



Statutes and "safety" containers are not the answer to fatal drug poisoning. Education only can in part meet the carelessness of parents, guardians and baby-sitters. Even this is most difficult in the case of a drug like aspirin, for "familiarity breeds contempt."

R. H. K.

★

## IMPROPER USAGE OF HOSPITALIZATION INSURANCE

Your editor has used these pages in the past to point to the improper use of voluntary prepayment insurance and the ultimate effects of such misuse. It has also been pointed out what the factors are which lead to the abuse of prepayment plans.

The recapitulation of these expressions by a voice of authority demands that editorial comment be made to lend emphasis by repetition. A large audience heard Dr. Kenneth B. Babcock, Director of the Joint Commission on Accreditation of Hospitals, discuss these matters of the abuse of hospitalization at the President's luncheon at the Annual Meeting of the Tennessee State Medical Association. This paper appears in this issue. The speaker put his finger on the reasons for the abuse of prepayment health insurance reiterating some of the past editorial comments.

We as a profession, hospital administrators and insurance officials must deal kindly with the patient's viewpoint on what is owed him by prepayment insurance. We as doctors dealing with patients clinically must always take into consideration the psychological reaction to illnesses,—the anxieties regarding future health and incapacity, the frustrations of helplessness in the face of diseases, and the actual effects of these on the disease per se in the personality. In addition to these pure health aspects of disease, is the additional problem of the unanticipated costs of medical care. One can thus readily understand that the patient will seize upon his prepayment plan to help him out in his difficulty, and he will use what means he may to put pressure on his doctor to help him to attain this end.

Physicians are accused at times, directly or by implication, by insurance carriers or by prepayment associations of conniving

with the patient in the abuse of hospitalization insurance. That this occurs can not be denied and this point has been made on these pages in the past. Broad generalizations always are dangerous. One wonders how often a doctor is led by dishonesty or how often by sympathy for a patient's problem. It is a poor physician who does not have a soft side. It would be an interesting statistic to know how often the doctor has cut his fee or foregone it completely in the instances of condoned abuse of hospitalization.

If the medical profession is guilty of errors of commission, the insurance carriers and the other prepayment plans offer the glaring examples of errors of omission. Your editor has yet to meet the first patient having prepaid hospitalization insurance who knew that it did not apply to diagnostic studies. (He is not ready to accept that all patients are liars!) Dr. Babcock and the indictment of insurance carriers by Federal courts point up these shortcomings. There is too much of the "small print" context on the tongue of the salesman or in the legal verbiage of the policy, especially since so many policyholders fall under group plans and accept things on face value. Your editor would add to Dr. Babcock's admonitions to the insurance people, the suggestion that the personnel directors or officials of all industrial plants carrying group policies carry on an educational program among employees to acquaint them with what they get and do not get under the prepayment plan.

Hospital administrators, if they will, can do much, as indicated by Dr. Babcock, in the more efficient use of the monies expended for hospitalization. There are dangers, and especially in the proprietary hospitals, that an extra day or two for each patient will help in the census and in meeting the operating deficit.

Dr. Babcock's discussion gives much to mull over,—for patient, doctor, prepayment plan official, employer, and hospital administrator. Voluntary prepayment plans must be made to work. Modern medical care costs too much to return to the laissez faire days of the past. If prepayment plans fail, compulsory health insurance is in with all its attendant evils.

Your editor feels that prepayment insurance is still young and must experiment. Recently on these pages consideration was given to a deductible type of insurance for catastrophic illness. (Major medical expense insurance.) Deductible insurance for diagnostic studies for the ambulant patient with an annual ceiling is needed to meet abuses of the present type. It is hoped such types of prepaid insurance will be as profitable as those in vogue at present. The average physician is a novice in fiscal matters and thus is at a loss to evaluate the profit factor in the game of prepaid insurance. This unquestionably influences premiums and types of insurance, not necessarily what is best for the patient and his medical care. Obviously insurance carriers are not in the prepaid health insurance business for philanthropic reasons, and the reserves of the nonprofit associations indicate that the whole is not an unprofitable business.

There is much to be clarified on all sides.

R. H. K.

## DEATHS

**Dr. John Wesley Hocker**, 51, Chattanooga, died at his home on April 29th from a heart attack. Dr. Hocker was the Head of the Hocker Pediatric Clinic.

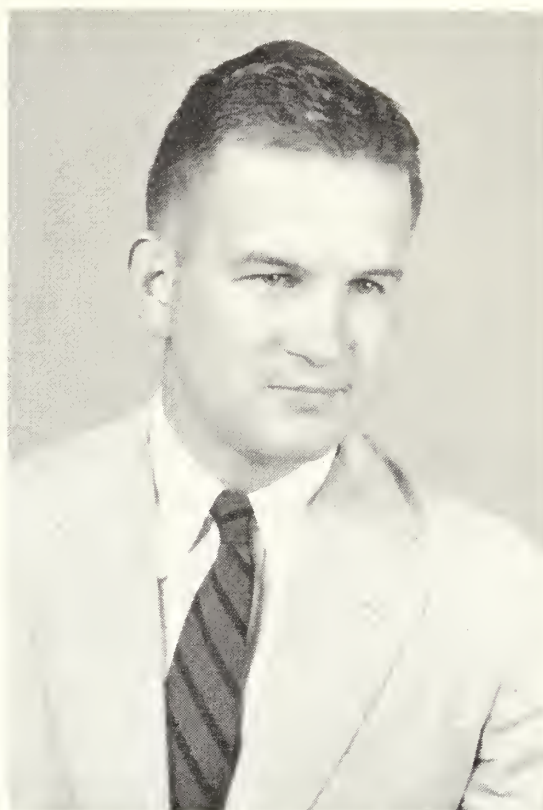
**Dr. J. A. Hardin**, 70, of Hampton in Carter County, died April 19th at his home. He had been in ill health for some time.

## PROGRAMS AND NEWS OF MEDICAL SOCIETIES

### New Public Service Director Employed

Mr. Jesse Hill Ford, Jr., recently of Gainesville, Florida, was recommended by the Public Service Committee to the Board of Trustees for the position of Public Service Director of the Tennessee State Medical Association. The Board of Trustees employed Mr. Ford and he will assume his duties on June 15th.

Mr. Ford received his A.B. degree from Vanderbilt University in 1951 and his M.A. from the University of Florida this month. He served as a Lieutenant in the U. S. Navy



MR. JESSE H. FORD, JR.

from 1951 to 1953 as a Top Secret Control and Administrative Officer. He served in the far east in Japan, Korea and Okinawa. He received medals for China Service, Korea Service and United Nations.

Mr. Ford served on the editorial staff of the *Nashville Tennessean* newspaper during 1950-51. He handled public information duties, both at sea and ashore while on active duty with the U. S. Navy. Prior to coming with the Tennessee State Medical Association, he was Public Relations Assistant for the General Extension Division of the University of Florida at Gainesville. In that position, he planned and expedited news coverage for eight adult education departments sponsoring programs in all parts of Florida. This work required services to newspapers, magazines, radio and TV stations. His duties also included editing and writing copy for promotion bulletins and public education brochures. Prior to his actual business affiliations, Mr. Ford was

actively engaged in a number of campus activities before his graduation.

Mr. Ford's wife, before their marriage, was the daughter of Dr. and Mrs. Charles Davis of Humboldt, Tennessee. They have three children and will make their home on Westover Drive in Nashville. Mr. Ford will assume his duties on June 15th.

### **Nashville Academy of Medicine and Davidson County Medical Society**

The Society's May 10th meeting was conducted in the Hermitage Hotel in conjunction with the Nashville Society for Internal Medicine and the Middle Tennessee Heart Association. The combined meeting enabled the members of the three societies to hear two eminent heart authorities, Dr. Louis N. Katz of Chicago and Dr. John A. Luetscher, Jr., of Stanford University School of Medicine. A dinner preceded the scientific program.

### **Consolidated Medical Assembly**

Seventy-two members of the Society attended the May 3rd meeting where Dr. Charles C. Trabue IV, of Nashville, President of the Tennessee State Medical Association, spoke on "Plans of the Association for the Coming Year." Dr. Frank Whitacre, professor of obstetrics and gynecology at Vanderbilt University, gave a paper on "Treatment of Breech Presentation." Dr. Gordon Peerman, member of the Obstetrical staff at Vanderbilt, discussed "Use of Cortisone and Antibiotics in Pelvic Inflammatory Diseases."

### **Chattanooga-Hamilton County Medical Society**

The Society held its regular monthly meeting on May 5th in the Interstate Auditorium. Dr. Frank B. Graham spoke on "Malignant Tumors of the Colon." Dr. Robert Thompson gave a paper on "Eczema of the Hands." Case reports were given by Dr. E. White Patton and Dr. Clarence Shaw.

### **Warren County Medical Society**

The organization of the new County Society was effected early in April and ap-

proval was announced at a dinner meeting on April 18th. In addition to reports made by officers of the new Society, Dr. John Mason reported on the closed telecast on Salk polio vaccine which he had attended in Nashville.

### **Benton-Humphreys County Medical Society**

Members of the Benton-Humphreys County Medical Society held its organizational meeting in Camden on April 22nd. All physicians in the two counties were invited to attend.

### **Knoxville Academy of Medicine**

The Society held its regular meeting on May 10th and the scientific program was presented by Dr. Charles L. Martin of Dallas, Texas, clinical professor of Radiology, Southwestern Medical School of the University of Texas. The title of his paper was "Treatment of Cancer of the Face, Mouth and Neck with Irradiation."

### **Roane County Medical Society**

The regular meeting of the Society was conducted on Tuesday, April 26th, in the Oak Ridge Hospital. The program consisted of a paper entitled "Accidents and Poisons in Children," by Dr. J. Morris Arena, Associate Professor of Pediatrics, Duke University, Durham, North Carolina.

### **Memphis-Shelby County Medical Society**

The Memphis and Shelby County Medical Society met for its regular monthly meeting on April 5th in joint session with the Memphis-Shelby County Bar Association at the Hotel King Cotton. The program consisted of: (1) "The Evaluation of Subjective Complaints in the Injured Persons," by Dr. George M. Higley; (2) "Medical Aspects of the Workmen's Compensation Law" by Mr. John S. Porter; dinner was served at 6:00 P.M. After this the program continued as follows: (1) "Traumatic Neurosis" by Dr. D. C. McCool; (2) "The Medical Witness" by Mr. Walter P. Armstrong, Jr., and Dr. Nicholas Gotten. 225 lawyers and 145 physicians attended.



## NATIONAL NEWS

### The Status of Health Legislation in Congress

#### Reinsurance

##### What Bills Would Do—

This legislation provides an initial \$25 million to start a trust fund that would be maintained by percentage payments from premiums of participating health insurance plans. The total U. S. contribution would be \$100 million. The fund would reimburse voluntary health insurance plans (commercial and nonprofit) for abnormal losses in extending coverage and expanding benefits. Cited by the Administration bill as areas where reinsurance would be helpful are catastrophic illness and coverage of rural families and low income groups. Participation would be voluntary on the part of insurance companies.

##### Status of Bills

Chairman Priest of the House Interstate and Foreign Commerce Committee has said hearings will be held on this subject, but no date has been set. Chairman Hill of the Senate Labor and Welfare Committee has not indicated an interest in the bill nor is there strong support apparent among members generally. The Administration, principally through the President and Mrs. Hobby, has made plain that it will press hard for reinsurance, which has been identified as at the top of the White House "must list" for health legislation. The bill is little changed from last year's measure which was defeated in the House. Bills before this Congress: Title I of the following Administration omnibus health bills: S886 (Smith of New Jersey and 8 others); HR3458 (Priest) and HR3720 (Wolverton), also HR400, 401 and 2533 (all by Wolverton).

##### AMA Policy

While endorsing the stated purposes of the bills (to promote the best possible medical care on reasonable terms), the American Medical Association again opposes the proposal on the grounds that (1) extensive private funds are available within the insurance industry for such purposes, (2) reinsurance doesn't provide a means for making insurable what otherwise would be an uninsurable risk, (3) it will not fulfill its intended purpose and might even inhibit the satisfactory progress made to date by voluntary plans, and (4) it is a potential subsidy.

### Doctor Draft Extension and Military Medical Scholarships

##### What Bills Would Do

The Doctor Draft extension bill would continue the present act for another two years beyond its

July 1, 1955, expiration date. Under the scholarship bill the government would pay up to \$133 per month, plus tuition and fees. Students would be obligated for three years' active duty if the scholarship was for a year or less, and four years if for more than one year. The Defense Department is proposing this plan as part of its long range program for procuring career medical officers; and extension of the Doctor Draft is its answer to the short range problem.

##### Status of Bills

The Doctor Draft issue is almost certain to come up for Congressional action, because of the imminent expiration of the act that for four and one-half years has supplied the military with physicians. Hearings have not yet been scheduled, however. It is planned to bring up scholarship bills ahead of draft extension. The three services have been supporting an extension for the last year, and eventually the Defense Department accepted this policy, making the present bill an official Administration measure. Doctor Draft bill is HR2886 (Vinson); scholarship bills, HR67 and HR4645 (Bennett, Florida) and S1444 (Russell and Saltonstall).

## MEDICAL NEWS IN TENNESSEE

### Vanderbilt University School of Medicine

The Pediatric Department at Vanderbilt University School of Medicine announces a one-day Refresher Course in Poliomyelitis on June 30, 1955, which will concern all aspects of the disease, including acute care, rehabilitation, respirator care, surgical aspects and the latest information on prevention. The course is available to physicians, nurses and physical therapists. For most sessions participants will be grouped according to their own professional interest. A \$5.00 registration fee will cover cost of luncheon, mailing and mimeographing.



A new half million dollar surgical research laboratory was dedicated on April 20. Highlighting the brief dedication ceremonies was the tour of the addition to the hospital by Dr. S. Rudolph Light, donor of \$350,000.00 for its construction. Visitors were shown the complete laboratory from operating rooms to various rooms where hundreds of animals including dogs, rats, rabbits and monkeys will be housed.

## University of Tennessee College of Medicine

Since January 1, 1955, the Division of Medicine has received notification of research grants totaling \$107,402.00. Two are from the A.E.C. and deal with physiological alterations in monkeys subjected to whole body radiation and with mechanisms of ionic imbalance in pathophysiologic states. Two grants are from the U. S. Public Health Service and to study alterations in central hemodynamics and sodium and potassium metabolism in artificial fever, and the effects of diuretic agents on hemodynamics and transcapillary transfer rates of Na and K. A fifth grant from the American Heart Association is for studies of potassium metabolism in animals whose total body K has been acutely reduced by use of the artificial kidney.

★

A three-day postgraduate course in cardiovascular diseases was given May 18, 19, and 20 at the John Gaston Hospital, under direction of Dr. I. Frank Tullis, Chief of the Division of Medicine. It consisted of lectures, panel discussions, case presentations, ward rounds and individual examination of selected patients.

★

Dr. William M. Hale, of the Department of Microbiology, has been awarded a research grant of \$9,486 by the A.E.C. for the study of the effect of ionizing radiation on infection and immunity.

★

Dr. James G. Hughes, professor of pediatrics, has been selected by the World Health Organization to study the pediatric departments of the medical schools in Latin America.

★

Dr. James D. Hardy, of the Department of Surgery, will become professor and head of the Department of Surgery at the University of Mississippi in Jackson June 1.

★

Dr. Nicholas R. Di Luzio, of the Department of Physiology, has been awarded a research grant of \$4,860 by the A.E.C. Dr. Di Luzio is to study the role of the reticulo-endothelial system in radiation injury and recovery.

Dr. T. P. Nash, Jr., whose teaching career almost spans the history of the College of Medicine since it began in Memphis in 1911, is retiring as chief of the Division of Chemistry to devote full time to his duties as dean of the School of Biological Sciences. His successor as chief of the division will be Dr. John L. Wood. His portrait was presented to the University on June 11 in the new Chemistry-Physiology Building. Dr. Charles J. Deere made the presentation; it was accepted by Dr. O. W. Hyman, dean of the College of Medicine.

★

Dr. Roger E. Koeppe, of the Department of Chemistry, has been awarded a \$7,830 research grant by the A.E.C. for the study of "The Metabolism of Serine in the Intact Rat."

★

Eight Memphis physicians and a U. S. Public Health Service laboratory director have been appointed to the staff. Drs. Michael M. Marolla, Charles A. Rosenberg, and William G. White will be instructors in the Division of Medicine; Dr. Dan Edgar Eyles, the USPHS Laboratory director; and Dr. Calvin Lee Gibson will be lecturers in Preventive Medicine; Dr. Chester G. Allen, as assistant in Urology; Dr. Frank Smythe, Jr., assistant in Surgery; and Drs. Henry G. Rudner, Jr., and Richard P. McNelis, as assistants in Medicine.

## The West Tennessee Medical and Surgical Association

Dear Doctor:

You are cordially invited to attend the 1955 meeting of the West Tennessee Medical and Surgical Association, which met on Thursday, May 26, at the Milan Arsenal Recreation Club, Milan, Tenn. The following program was given.

(1) Management of Uncomplicated Diabetes Mellitus in General Practice, Dr. E. C. Crafton of Trenton; (2) More Consideration for the Hemorrhoidectomy Patient, Dr. John Thornton, Jr., of Brownsville; (3) Present Day Diagnosis and Treatment of Rheumatic Fever, Dr. Fred M. Friedman of Jackson; (4) Carcinoma of the Lip, Dr. Howard W. Whitaker of Savannah; (5) Newer Treatments in Dermatitis, Dr. Fox

Miller of Memphis; (6) Transurethral Prostatic Resection, Dr. O. H. Graves of Jackson; (7) Present Day Surgical Therapy of Pulmonary Tuberculosis, Dr. S. Gwin Robins of Memphis. The after dinner speaker was Dr. William Darby, of the Department of Nutrition of the Vanderbilt University School of Medicine.

### Regional Heart Meeting Held in Nashville

The Southern regional meeting of the American Heart Association was held in Nashville on March 30 and 31. The representatives from eleven states of the southern region attended. Joining the delegates were representatives of the American Heart Association and the United States Public Health Service as well as leading area specialists in the rheumatic fever field. A number of outstanding physicians from throughout the entire southeast attended and participated in the two day programs.

### Middle Tennessee Medical Association

The Association held its 121st Semiannual Meeting on May 19 at the American Legion Hall in Lawrenceburg under the presiding of Dr. Robert McCown of Fayetteville.

The program consisted of the following papers:

"Interesting Lesions in the Gastrointestinal Tract," Dr. Samuel H. Hay, Murfreesboro; "Vague and Occasional Overlooked Disorders," by Dr. William Ewers, Nashville; "Cholecystitis," Dr. T. A. Patrick, Jr., Fayetteville; "Skeletal Tuberculosis," Dr. Benjamin Fowler, Nashville; Presidential Address, Dr. Robert McCown; "Management of the Psychoneurotic Patient," Dr. C. B. Roberts, Sparta; "An Analysis of 500 Consecutive Obstetrical Cases," Dr. O. Reed Hill, Lebanon; "Carcinoma of the Breast," Dr. Oscar Noel, Nashville; and "Raising Babies and Children," Dr. Harry Estes, Nashville.

### Chattanooga-Hamilton County Mental Health Association

Dr. William G. Hollister of Atlanta, senior surgeon in the U. S. Public Health Service and regional mental health consultant, was the guest speaker at the annual meet-

ing of the Association on May 5. Dr. Hollister discussed "What the Layman Can Do About Mental Health."

### Henry County Physicians Seek Accreditation for Hospital

Members of the Henry County Medical Society recently adopted a Resolution endorsing the principal of accreditation and requesting that every possible step be taken to secure that standing for the Henry County General Hospital in Paris. The Resolution was forwarded to the Joint Committee on Accreditation of Hospitals.

### Heart Symposium

Three prominent heart specialists addressed the fourth annual heart symposium held on March 17 in Chattanooga. The principal speakers were: Dr. Thomas J. Dry, head of the cardiology section of the Mayo Clinic; Dr. Melvin Morgan Figley, assistant professor of radiology at the University of Michigan, and Dr. Arthur E. Stauss, president of the St. Louis Heart Association and assistant professor of clinical medicine at the Washington University Medical School, St. Louis. Dr. Dry's subject was "The Treatment of Disturbances of Cardiac Rhythm" and "Congenital Anomalies of the Heart and Great Vessels Associated with Increased Pulmonary Blood Flow; Diagnosis and Treatment." Dr. Stauss spoke on "Gadgetless Cardiology." Dr. Figley's paper was entitled "Roentgen Examination of Acquired Heart Disease" and "Roentgen Contributions to the Study of Congenital Heart Disease."

## PERSONAL NEWS

**Dr. Kyle Rutherford** and **Dr. Paul Estes** have announced that they are opening an office for the practice of medicine in Watertown.

**Dr. G. B. Hubbard** and **Dr. Leland M. Johnston**, Jackson, recently had an article published in the Journal of the American Medical Association, on propane exposure.

**Dr. John B. Steele**, Chattanooga, was the recent speaker over a television station and his subject was "Rehabilitation."

**Dr. Talmadge Buchanan**, Bristol, has received his certification from the American Board of Surgeons and **Dr. Marshall Hogan** has been certified



by the American Board of Psychiatry and Neurology.

**Dr. J. T. Holmes**, McKenzie, has been elected president of the McKenzie Lions Club.

**Dr. Houston Lowry**, Madisonville, has opened his office for the practice of medicine and will be associated with **Dr. H. W. Hooper** in the operation of Madisonville Clinic.

**Dr. O. N. Torian**, Sewanee, recently celebrated his 80th birthday and the fifth birthday of the children's wing of the Emerald-Hodgson Memorial Hospital, a unit of the institution which he had a great deal to do in founding.

**Dr. J. C. Blankenship** has opened his office for the practice of medicine in Sparta.

**Dr. Charles B. Witt**, Goodlettsville, is returning from the Army to resume his practice of medicine there.

**Dr. R. B. Wood**, Knoxville, recently spoke on "New Hope for Old Hearts" before the Kiwanis Club of Knoxville.

**Dr. Frank K. Jones, Jr.**, Cleveland, has been elected President of the Fellows Association of the Alton Ochsner Medical Foundation, New Orleans.

**Dr. John R. Smith** and **Dr. Charles C. Chitwood, Jr.**, Lafayette, have moved into the new and modern Smith-Chitwood hospital.

**Dr. Robert H. Elder**, Cedar Hill, has been elected to membership in the American Academy of General Practice.

**Dr. William F. Meacham**, Nashville, recently addressed the Tennessee Council for Retarded Children at the New Southern Hotel in Jackson.

**Dr. William E. Gibbons**, Rogersville, has announced his association for practice with **Dr. Walter L. Goforth** and **Dr. Robert D. Doty**.

**Dr. Lonis F. Rittelmeyer**, Memphis, is the author of a recent article in the Journal of the Student American Medical Association on Treatment of Neurotics.

Included on the medical advisory committee for Tennessee for the distribution and administration of polio vaccine are: **Dr. R. H. Hucheson**, Franklin; **Dr. Charles C. Trabue IV**, Nashville; **Dr. Clyde Crosswell**, Memphis; **Dr. Sam O. Jones**, Centerville.

**Dr. Joe Butterworth**, Camden, has been elected Vice-President of the Benton-Humphreys County Medical Society.

tients observed in private practice. He develops the thesis that the menal symptoms are actually secondary to a primary disturbance which is actually autonomic and emotional, therefore manic-depressive illness is not really a mental illness. The following definition is an expression of his interpretation of experience:

"Manic-depressive psychosis is a relatively benign psychiatric entity, with a familial tendency, occurring in a cycloid personality, often in repeated episodes, manic, depressive, or mixed in type, and accompanied by autonomic and emotional disturbances which in turn produce certain psychic symptoms."

Dr. Campbell's need to write a book on this subject has grown out of his belief that most of the literature has been based on patients in State Hospitals. It is his feeling that many of the milder types of manic-depressive illness are not seen in such settings and are therefore not stressed enough in current textbooks of psychiatry. He discusses these cases quite well and the point is well taken.

His chapters on the historical background of the condition are comprehensive and interesting. Much space is devoted to the description of the basic cyclo-thymic personality which is considered as a part of the disease and also of the symptomatology which he feels is directly related to the autonomic and emotional elements in the condition.

The chapters on treatment include an able discussion of such topics as diagnosis, explanation of somatic symptoms, removal of preprecipitating and aggravating factors, psychotherapy, advice to the family and friends, rest and relaxation, occupational therapy, bibliotherapy and the use of drugs. The indications for electroconvulsive therapy are given and the technique of this treatment is well described.

While the reviewer cannot agree with his complete rejection of psychogenic factors in the etiology of the illness, he feels that there is much interesting material presented in this volume about a condition that presents itself extremely frequently to the physician. Many of the suggestions for management of the problem are practical and usable by the physician.

FRANK LUTON, M.D.



**Handbook of Medical Treatment.** Edited by **Milton F. Chatton, M.D.**, **Sheldon Morgan, M.D.**, and **Henry D. Brainerd, M.D.** Lange Medical Publications, Los Altos, California. 4th Edition. 1954. \$3.00.

A well organized and indexed outline of medical treatment. The 4th edition has been expanded to contain 550 pages, is paper bound and convenient for transporting.

Each disease entity contains the standard nomenclature code number and has a short description of the disease process. There are frequent

## BOOK REVIEW

**Manic-Depressive Disease.** By **John D. Campbell, M.D.**, Attending Psychiatrist, Georgia Baptist Hospital and St. Joseph's Infirmary, Atlanta; Chief Psychiatrist, Peachtree Sanitarium, Atlanta. Philadelphia: J. B. Lippincott Company. 403 pages. 1953.

The author has presented a detailed account of manic-depressive reactions based on his series of 522 "carefully selected" cases from 2,000 such pa-

charts of differential diagnosis as well as outlines of supportive and specific treatment.

In the reviewer's opinion, the attempts at abbreviating descriptions of disease and differential diagnosis tend only to complicate and not help the otherwise rational outline of treatment; however, the attention paid to possible complications of drug treatment deserves special commendation.

LLOYD RAMSEY, M.D.

## ANNOUNCEMENTS

### AMA President to Speak at Tennessee Valley Medical Assembly

Dr. Elmer Hess, President of the A.M.A., will be the honor guest at the Tennessee Valley Medical Assembly, sponsored by the Chattanooga-Hamilton County Medical Society at the Read House, October 3-4. The banquet speaker will be Dr. John C. Krantz, Jr., professor of pharmacology, University of Maryland. His topic will be "The Simplicity to Wonder."

Among the speakers on the program are: Dr. Philip Thorek, Chicago, who will discuss "Intestinal Obstruction"; Dr. Edgar Hull, New Orleans, will speak on "Emergency Use of Corticoids and Corticotropins"; Dr. Alton Ochsner, New Orleans, will discuss "Cancer of the Lung"; Dr. Thomas J. Dry of Rochester will speak on "Coronary Artery Disease"; Dr. Nicholas J. Eastman, Baltimore, will speak on "Complications of Pregnancy"; Dr. Waldo E. Nelson, Philadelphia, "Pediatric Care by the General Practitioner"; Dr. J. Spencer Speed, Memphis, will discuss "Diagnosis and Treatment of Backache"; and Dr. Sara Jordan will speak on the topic "The Irritable Colon." Other speakers include Dr. George Pack, New York; Dr. Robert

Greenblatt, Augusta, Georgia; and Dr. Arthur Curtis, of Ann Arbor, Michigan.

A golf tournament will be conducted during the Assembly and the Ladies' Auxiliary of the Chattanooga-Hamilton County Medical Society is planning special events for the wives of visiting doctors.

### Postgraduate Medical Cruise

A new and unique type of postgraduate education program is offered by the Duke University School of Medicine. The postgraduate medical cruise will be aboard the new Trans-Atlantic Liner M.S. "Stockholm" and the cruise will visit such Caribbean ports at Port-Au-Prince, Cartagena, San Blas Islands, Cristobal and Kingston.

Every cabin is outside and the sailing from Wilmington, North Carolina, will be on November 23, 1955, and the entire cruise covers twelve days.

The medical program to be offered constitutes twenty-five hours of formal teaching toward the 150 hours of postgraduate study required every three years. For further medical details address Director, Postgraduate Education, Duke University School of Medicine, Durham, North Carolina.

### Postgraduate Course in Pediatric Allergy

The New York Medical College, Flower and Fifth Avenue Hospitals, New York City, offer a Postgraduate course in Pediatric Allergy from November 2, 1955, to May 31, 1956. The course covers thirty sessions. The fee is \$300.00. The course consists of lecture-seminars, laboratory and clinical procedures, clinic work, ward rounds and animal experimentation covering basic principles of diagnosis and treatment of allergy in children and applied immunology. Apply to Office of the Dean, New York Medical College, Fifth Avenue at 106th Street, New York 29, New York.

## PLACEMENT SERVICE

The placement service of The Tennessee State Medical Association is designed to assist doctors and communities to get together. Further information and contacts on both physicians and communities are available from the Public Service Department, 322 Doctors Building, Nashville 3, Tennessee.

### Locations Wanted

A 28 year old, married physician, Protestant, graduate University of Tennessee. At present Interning. Desires General Practice, Clinic, Assistant or Associate. Available August 1, 1955. LW-162

A 30 year old, married physician, Protestant, graduate St. Louis University, desires general practice in community 10,000-30,000. Clinic, assistant or associate acceptable. Desires East or Middle Tennessee. Available late Spring, 1955. LW-165

A 33 year old married physician, Protestant, graduate University of Cincinnati. Board certificate Urology. 36 months previous military service. Community preferred 50,000. Available July 1, 1955. LW-166

A 25 year old, Protestant, married, graduate University of Tennessee. Desires General Practice with minor surgery in small town near Knoxville. Will consider others. Available July 1. LW-167

A 33 year old, married physician, Hebrew, graduate University of Maryland, Diplomate American Board of Dermatology & Syphilology. Priority IV. Available immediately. LW-168

A 33 year old, married physician, Protestant, graduate Northwestern University, priority IV, Desires Internal medicine, clinic, assistant or associate. Available any time. LW-169

A 31 year old, married physician, Roman Catholic, graduate Georgetown University School of Medicine. Board eligible American Board of Orthopedics. Draft exempt. Desires clinic, assistant or associate. Available October 1. LW-170

A 31 year old, married physician, Episcopalian, graduate University of Pennsylvania. Present practice limited to hospital patients. Desires to enter private practice. Specialty Internal Medicine. Available now. LW-171

A 31 year old, married physician, graduate Alabama Medical College, Priority IV. Desires general practice, clinic, assistant or associate. Available July 1. LW-172

A 35 year old, married physician, Protestant, graduate University of Oklahoma. Board eligible—general surgery. Priority IV. Desires general surgery, clinic. Available July 15. LW-173

A 33 year old, married physician, Protestant, graduate Medical College of South Carolina Board qualified—Dermatology. Priority IV. Available July. LW-174

A 30 year old, married physician, Christian, graduate Vanderbilt School of Medicine, Vanderbilt certificate for 2 years training in Pediatrics. Desires clinic with another pediatrician. Available July 1. LW-175

A 44 year old, married physician, Jewish, graduate University of Illinois, Board certificate held in Ophthalmology. Priority 4F. Desires associate or Solo. Available immediately. LW-176

A 33 year old, married physician, Protestant, graduate University of Tennessee. 1 year Psychiatry. Desires to locate permanently in Tennessee for general practice in community 5,000-15,000. Prefers Middle or West Tennessee. Available August 15. LW-177

A 29 year old, married physician, Catholic, graduate Vanderbilt University, completing 3 years Pediatric training July 1. Priority 4-A. Desires Clinic, assistant or associate. Available August 1. LW-178

A 31 year old, married physician, Episcopal, graduate Georgia Medical College, specialty training in Ob-Gyn. Category 4. Desires clinic, assistant or associate. Available August 1. LW-179

A 33 year old, married physician, Protestant, graduate Duke University, Board Eligible for American Board of Surgery in July, 1956. Draft exempt. Desires general surgery. Available July, 1956. LW-180

A 41 year old, married physician, Protestant, graduate University of Texas School of Medicine. Desires Otolaryngology and endoscopy in Clinic, assistant or associate. Available September 1. LW-181

A 36 year old, married physician, Catholic, graduate University of Colorado. Board eligible in Pediatrics. Military status, not Eligible, previous service. Desires clinic, assistant or associate. Available August 1. LW-182

A 30 year old, married physician, Protestant, graduate Meharry Medical College. Priority 4. Desires general practice. Available July 1. LW-183

A 35 year old, married physician, Protestant, graduate Yale University. Priority 4. 20 months residency in Internal medicine. Six years practice of Internal medicine. Available 60 days following notice. LW-184

A 27 year old, married physician, Protestant, graduate University of Tennessee. Being discharged from service June. Desires general practice, assistant or associate. Available July 15. LW-185

A 49 year old, married physician, Protestant, graduate University of Colorado School of Medicine. American Board Certificate in Obstetrics-Gynecology. Twenty-four years active Navy service. Associate, or share office with other specialist than Obs-Gyn. Available August 1. LW-186

A 29 year old, married physician, Protestant, graduate Duke University. Two years Pediatrics completed as of May, 1956. Priority IV. Available May, 1956. LW-187

A 33 year old married physician, Protestant, graduate Washington University, certified by American Boards of Internal Medicine. Community preferred 30,000. Desires clinic, assistant or associate in East Tennessee. Available July 1. LW-188



# Journal of the Tennessee State Medical Association

OWNED AND PUBLISHED BY THE ASSOCIATION

Volume 48

JULY, 1955

Number 7

*New drugs for the control of hypertension have appeared at such frequent intervals that the physician finds himself confused in the choice of drugs. This paper should be of help in orientation in drug therapy.*

## THE USE OF DRUGS IN THE MANAGEMENT OF HYPERTENSION\*

SAMUEL S. RIVEN, M.D.,† Nashville, Tenn.

Hypertension and hypertensive cardiovascular disease represent two different problems, although they obviously are inseparable in practice. Hypertension is dynamic and can be demonstrated only in the living organism. Hypertensive cardiovascular disease implies organic change with characteristic lesion in various parts of the cardiovascular system. Hypertension per se may or may not be attributable to structural damage. Hypertensive cardiovascular disease is due to pathogenetic factors.

Hypertension is, by definition, an elevation of the blood pressure above normal. It infers that the normal is known; this is rarely the case. As stated recently by Master, the normal blood pressure is an extremely variable quantity and to establish that the blood pressure is normal in a given patient can be quite difficult. Nevertheless, an arbitrary definition of hypertension as an elevation of systolic and/or diastolic pressure above 150/90 serves a useful purpose. This is the reason for acceptance of this definition by the American Heart Association.

Isolated systolic hypertension such as occurs in thyrotoxicosis, arteriosclerosis or aortic regurgitation, is an entity separate from hypertension with increased diastolic pressure and does not carry as serious a prognosis. Thus, in speaking of the problem of hypertension, we really are speaking of the problem of *diastolic hypertension*.

Hypertensive cardiovascular disease is a pathologic state which is caused by hypertension. It is characterized by changes in the vascular walls and by an enlarged heart. Frequently, lesions of the brain or kidneys are also present, but these are secondary to lesions in the blood vessels of these organs. It is these results of increased blood pressure which makes control of hypertension desirable.

### Course of the Disease

In the normotensive, certain vascular changes slowly occur in response to "age" or, in other words, in response to prolonged strain at levels in the normal range. As the pressure rises the strain increases and these changes occur at a more rapid rate. Thus the rate with which these changes occur depends principally on two things: (1) the severity of the strain, and (2) the susceptibility of the vascular system to damage.

The factors which influence the severity of strain are those which bring about an increase in blood pressure. They may involve the way in which a person reacts to a given stimulus, or they may involve the stimulus itself. The three chief components of this group are, (1) environment, (2) heredity, and (3) pathologic conditions.

Environment has a marked effect upon the amount of pressor stimulation to which a person is subjected. Beginning with Donnison's account of the infrequency of hypertension in the African Negro,<sup>1</sup> evidence for the effect of environment has been demonstrated in numerous ways. Psychiatrists have studied this aspect of hypertension exhaustively and have shown that some pa-

\*Read before the Meeting of the Tennessee State Medical Association, April 11, 1955, Chattanooga, Tenn.

†From the Department of Medicine, Vanderbilt University School of Medicine, Nashville, Tenn.

tients with hypertension can be successfully treated by altering the environment to diminish the stressful situation.<sup>2</sup>

The relationship of heredity to severity of strain is difficult to determine because heredity also has a marked effect upon the susceptibility of the blood vessels and heart to damage. There are numerous studies, however, which show that people with a positive family history of hypertension react abnormally to standard stimuli such as the cold pressor test of Valsalva's maneuver. Similar abnormal responses to an environmental situation have been demonstrated in students with a familial background of hypertension.

Pathologic conditions are capable in certain instances of altering the strain of secretion of pressor hormones. In pheochromocytoma, an abnormal strain is placed on the vascular system, and even in the most resistant type of person vascular changes appear.<sup>3</sup> Less severe but definite strains arise in Cushing's disease. A similar increased strain can result from lability of pressure associated with intracranial lesions. In poliomyelitis, encephalitis, and after head trauma, the response of the blood pressure to various stimuli may be grossly altered.

Factors which influence cardiovascular susceptibility to damage are much less clear-cut than those which influence the severity of strain. There is much variability in response, but it is extremely difficult to measure. Heredity would seem to be the most important controlling factor, but race, sex and diet are probably significant, and there are undoubtedly other unknown factors.

Heredity influences on cardiovascular susceptibility to damage has been demonstrated in many ways. Certain families have many members with hypertension, and yet the hypertension is carried well and they live out a normal life span. Some families seem doomed to destruction because of the rapidity with which the vascular system of their members deteriorate in the presence of hypertension.

The influence of race has been a subject of considerable discussion in the past. Controversial studies of Orientals, Indians and others have been cited as evidence for or against this hypothesis. The most convinc-

ing studies, however, are those on the American Negro. Both pure Negroes and those with Negro blood seem to be more susceptible to cardiovascular damage from hypertension. Less clear-cut but highly suggestive evidence of a similar tendency has been demonstrated in the people from the Mediterranean area. It is very difficult to exclude the effect of environmental stress. However, that sex influences the susceptibility to vascular damage is borne out by the fact that although more women than men have hypertension, fewer of them develop progressive vascular disease.

The relationship of diet to vascular susceptibility has recently been the subject of some interesting studies.<sup>4</sup> The high incidence of hypertension in areas of the world where a high fat, high protein diet is eaten is highly suggestive of a cause and effect relationship, but concomitant differences in environment, race and other factors make interpretation practically impossible. It remains to be seen whether experimental studies along these lines will fully establish a true relationship between diet and susceptibility of the vascular system to damage.

Progression of cardiovascular disease is the factor which is most important in determining the need for treatment. It represents the damage which hypertension is causing in the cardiovascular system. When the blood pressure, cardiac function, and renal function remain unchanged for a long time, it indicates a lack of susceptibility. It lessens the urgent need for treatment. When, on the other hand, there is evidence of progressive deterioration of one or more portions of the cardiovascular system, need for treatment is urgent.

Progress of the disease is a direct function of time. Hence, the two ways in which information concerning progression is obtained are: (1) detailed evaluation of the history, and (2) repeated examinations of the patient over a period of time. The first of these sources of information should always be explored to the maximum. It sometimes gives an adequate index of progression so that further observation is not necessary. Usually, however, it is necessary to follow the course in the patient for a while and watch for evidence of renal, car-

diac or other deterioration. Sooner or later, it becomes apparent that there is or is not a degree of progression. The physician is then ready to outline the program for treatment.

Some cases of hypertension do not need treatment; others need intensive treatment. Basically, the decision to treat is made when the disease is progressing or will probably progress. Herndon discusses this problem in detail.<sup>5</sup>

Definite progression is relatively easy to recognize. Increasingly severe symptoms are an indication of progression. An increasing blood pressure may be evidence of such progression, but should not be relied upon alone. More reliable are examinations of the ocular fundi and various laboratory tests. When fresh hemorrhages, exudates, disc changes, etc., appear, there can be little doubt but that the vascular system is suffering progressive damage. The same applies to steady deterioration of renal function.

Probable progression is much less easily recognized. It is in this sphere that the greatest differences of opinion concerning the need for treatment arises. Family history, occupation, personality, vascular reactivity, race, age and many factors must be considered together. The strain and susceptibility are outlined as carefully as possible, and an attempt is made to prognosticate the future course of the disease.

### Treatment

There are two basic approaches to the problem of how to decrease peripheral resistance in hypertension. The first of these is to find the factors or factor causing the increased peripheral resistance in a given case and remove them. The second approach is to lower peripheral resistance by any means which will be effective and thus cause the pressure to return to normal even though the original cause of the increased resistance remains unknown and possibly still active.

Cases in which the cause of the increased resistance can be demonstrated are not common. Six groups are commonly listed: (1) renal, (2) endocrine, (3) diffuse vascular, (4) intracranial, (5) toxemia, (6) coarctation of the aorta. These conditions should always

be considered in a given instance of hypertension and occasionally it will be possible to specifically remove a cause of hypertension and thus prevent further damage to the cardiovascular system. Often, however, these conditions are coincidental to hypertension of unknown cause or their existence over a period of time has caused vascular changes which in themselves are capable of maintaining the hypertension. Nonspecific therapy then becomes necessary.

In selected patients, psychiatrists have been able to alter an abnormal response to psychic stress.<sup>6</sup> This can result in very satisfactory control of hypertension. The cases in which *psychotherapy* can be used are infrequent, however, and the intensity with which psychotherapy usually must be carried out makes widespread application of this method of treatment impractical.

As stated by Page, there is one universally accepted means of lowering the blood pressure, though it is only moderately effective. This is by means of *reducing weight*. For those patients who are markedly overweight and only moderately hypertensive, this may be sufficient treatment. Usually, however, other treatment is necessary.

Marked *sodium deprivation* will result in lowering of the blood pressure in about 25 per cent of patients with hypertension. The daily intake must be in the neighborhood of 200 mg. of sodium chloride or less, and this restriction is very difficult to accomplish. The rice diet is one way of doing it. Other, more palatable diets have been tried with some benefit. Prolonged use of a very low sodium regimen has not been practical in the past, however, because patients often do not continue it long enough.

Two *surgical methods* of altering normal pressor pathways are available. These are sympathectomy and adrenalectomy. The latter of these methods is so new and drastic that its application in routine practice seems highly unlikely in the near future. Sympathectomy, however, has been used for many years, and has resulted in apparent control in a significant number of cases. Even in those patients whose blood pressure is not lowered there may be spectacular relief of symptoms. Smithwick states that mortality is lowered about fifty per cent in



unselected cases, treated by sympathectomy. Others have reported less remarkable but nevertheless favorable results. The difficulty in applying this procedure lies in the circumstance that nobody has been able to devise a means of selection of patients for sympathectomy which would exclude those who would not benefit from the operation. The most widely accepted indication for trial of the operation is failure of all less drastic measures.

The operation of choice is the lumbodorsal ganglionectomy of Smithwick. Less extensive procedures are ineffective, and more extensive operations are still experimental. In the past the operation has been withheld from patients with nitrogen retention, and those above 50 years of age were rarely treated by sympathectomy. Recently, however, a relaxation of these strict criteria has resulted in some unexpectedly good results. Final conclusions concerning the selection of patients must await further study. Current studies indicate that the use of sympathetic blocking agents may prove useful in selecting patients who would benefit from sympathectomy.

Nonspecific reduction of peripheral resistance can be accomplished by diminishing one or more of the known pressor mechanisms. It can also be accomplished by the use of *drugs* which are known to lower the peripheral resistance even when the means by which they do this is not known. Usually the use of any one such nonspecific means of lowering the pressure will not be potent enough to counteract both the unknown pressor mechanism and normal compensatory mechanisms. Thus, combined therapy is usually indicated.

Wilkins<sup>7</sup> has stated the characteristics of the drug that would be ideal in the treatment of essential hypertension. Such a drug should be effective in lowering the blood pressure continuously in a large proportion of cases. It should cause no toxic or physiologic side effects which are dangerous or even unpleasant. It should be practical for use over the course of years, hence preferably should be effective by mouth and should allow adequate sleep at night. While these requirements are relatively simple no such drug is presently available.

The drugs used in the treatment of hyper-

tension can be classified into groups of,— (1) central depressors, (2) peripheral blocking agents, (3) humoral antagonists, and (4) specific vasodilators. Some drugs have a combined action but, in general, one effect is predominant. Intelligent use of the different groups of compounds and combinations of them with other means of treatment will usually result in satisfactory control of the blood pressure.

1. *Central Depressors.* These include sedatives, veratrum, Apresoline, and rauwolfia. Barbiturates and other sedatives are very widely used and in some cases are fairly effective. They are most valuable in symptomatic control, especially of headaches, but in general these compounds are of too low grade activity to be useful by themselves. In combination with other drugs they may be completely satisfactory.

Veratrum alkaloids have entered the field of hypertensive therapy during the past few years.<sup>8</sup> They are quite capable of lowering the peripheral resistance in most patients, but because of the very narrow therapeutic index, satisfactory clinical control without undesired side effects is difficult to obtain. Taylor has reported that in a series of a hundred patients only three could take these drugs in amounts sufficient to lower average blood pressure without an emetic side effect, and that long term results have been far from encouraging. The compounds, however, have been most useful in the treatment of acute hypertensive crises. It is doubtful that the small doses of veratrum derivatives in various "shot-gun" preparations for use in treating hypertension have a significant effect.

Apresoline is a phthalazine derivative which has recently received widespread attention.<sup>9</sup> Its action appears to be principally central but there is also evidence that it is able to block the pressor activity of a number of substances. It is very mildly adrenolytic. In actual use this compound has proven to be of relative low toxicity and moderate potency. In some cases it alone may satisfactorily control the blood pressure, but usually it must be combined with some other agent. Favorable reports have appeared concerning the use of Apresoline with blocking agents, sympathectomy and rauwolfia.

Unpleasant side reactions to this drug are present in a large proportion of patients, perhaps as high as in 70 per cent, but in only about 10 per cent does the intolerance persist to the extent that the drug is contraindicated. The headaches caused by Apresoline are thought to be due to histamine which accumulates because of the antihistaminase activity of the drug. They can often be controlled with antihistaminics, if necessary, but in most cases the headaches become less severe as the drug is continued and they eventually disappear.

Some of the patients who develop nausea and vomiting with this drug do not develop any tolerance to it and its use must be discontinued. In a majority of cases, however, this problem can be minimized by starting with very small doses and increasing the amount very slowly.

The gradual building up of drug dosage is also important in preventing a severe reaction to the new low arterial pressure. Most patients go through a period of weakness, lassitude and mild depression when the blood pressure first drops. This reaction seems to be more severe in those patients who have a rapid drop, and it is usually advantageous to lower the pressure gradually.

Overdosage with Apresoline is not a practical problem. Both in man and in experimental animals there is a "floor" below which the blood pressure will not drop despite increasing doses. The limit of dosage is usually determined by the appearance of undesirable side effects and not by an exceedingly low blood pressure. Side reactions include headache, tachycardia, edema of the ankles, and eyelids, skin rash, vague muscular aches and pains, acute psychosis, and pancytopenia; rheumatoid arthritis and lupus erythematosus have been described especially after prolonged therapy at high dosage.

While Apresoline alone may satisfactorily control the blood pressure in some cases, its greatest value will be found in its combination with some other agent. Favorable reports have appeared concerning its use with blocking agents, such as hexamethonium, sympathectomy and rauwolfia.

Rauwolfia serpentina has been used for a number of years in India, but it is new to

American medicine. Preliminary reports have indicated that it has a complex sedative and depressor action which has been useful in the control of hypertension, especially in combination with Apresoline and pentolinium tartrate. It has a mildly hypotensive effect but it does not produce postural hypotension or abolish sympathetic vasopressor reactions. Its side effects, nasal congestion and bradycardia, are not significant problems but its sedative effect may, in some cases, require a reduction or an interruption of dosage. It has been reported to have a tendency to promote a gain in weight. It acts very slowly, requiring three or four days to produce any effect and several weeks to produce its maximal effect. Its use alone is most satisfactory in patients with anxiety neurosis and a labile blood pressure, particularly when associated with tachycardia. It has little hypotensive effect when given alone in chronic, severe, fixed hypertension, although its ability to slow the heart and sedative effect may result in subjective improvement.

Wilkins states that various combinations of rauwolfia, Apresoline, and veratrum offer a safe and most effective medicinal regimen. If instituted gradually they may be given safely in ambulatory patients with only weekly or even monthly checks of blood pressure. Because they can be used together in relatively small doses, these drugs in combination may produce a greater hypotensive action with fewer symptoms or side effects than can be by any one of them alone. They are all effective orally, they may be given in a four dose schedule, and they all appear to be active and well tolerated certainly for many months. However, in severe hypertensive disease the treatment of choice is pentolinium tartrate. Furthermore, the combination of Reserpine and pentolinium tartrate is more useful than either one alone.

*2. Peripheral Blocking Agents.* These substances lower the peripheral resistance by paralyzing sympathetic ganglia. Although this type of agent has been known for years, it was not until hexamethonium and pentolinium tartrate were developed that agents became available to which the body did not become rapidly resistant. Additional compounds of this type are now

being studied, but pentolinium tartrate is the only agent in this group which is of practical value at this time. It is usually capable of dramatically lowering the blood pressure and, in fact, its drawback lies in its tendency to lower the pressure too far. Unless used with the utmost caution this drug is extremely dangerous.

Pentolinium tartrate like hexamethonium has a complex action. When first given, these agents act chiefly as a sympathetic blocking agent. In the course of chronic administration, however, some degree of tolerance usually develops and, although the blood pressure may be lower because of a diminished cardiac output, peripheral resistance may actually be increased. There is some evidence that actual stimulation of sympathetic ganglia occurs in tolerant individuals. In addition, renal blood flow is diminished when the methonium compounds are first given and in the presence of a diminished cardiac output may remain below pretreatment levels. Hexamethonium effects are of shorter duration than pentolinium tartrate, therefore one obtains better control of blood pressure with pentolinium tartrate. Hexamethonium and pentolinium tartrate when combined with other agents such as Reserpine, Apresoline, or veratrum gives a better control of blood pressure with fewer side effects. The methonium drugs are potentially dangerous. Although their use can be lifesaving, injudicious use can be very harmful. The drugs should be given only under the most careful supervision.

Schroeder reports the effective use of hexamethonium in combination with Apresoline, terming the combined drugs Hyphex. While he recognizes the hazards of hexamethonium therapy, he believes that with the Hyphex method of control of hypertension the benefits outweigh the dangers. Hyphex has been a useful tool in the treatment of hypertension.

We have had some experience with pentolinium tartrate therapy and in general have employed the treatment plan recommended by Smirk.<sup>10</sup> He has pointed out that the extent to which the blood pressure falls is greatly influenced by posture, the fall being greatest when the patient is standing, intermediate when sitting, and there may be lit-

tle or no fall with safe doses when the patient is recumbent.

The patients we studied have been regularly hospitalized at the outset for evaluation and treatment with a thorough history, and physical and laboratory examinations initially. The blood pressures were observed at bedrest over a period of four days in order to establish a base line.

Pentolinium tartrate therapy was then instituted in a slow, cautious, and step-wise plan of increasing doses. It was found that pentolinium tartrate generally produced a fluctuating pressure with fair swings between the high and low points of the systolic and diastolic pressures. When the nadirs of the swings approached the desired pressure levels, rauwolfia or Apresoline was added similarly in a slow, cautious, and step-wise fashion of increasing doses until the desired therapeutic effect was obtained. Patients with "essential" hypertension were easily brought down to normotensive or near normotensive levels. Patients with previous sympathectomy were regulated to some inter-pressure where they could safely sustain the over-prominent orthostatic hypotensive tendency engendered by their operation. Patients with malignant hypertension had their blood pressure lowered very slowly and with great regard paid to the nonprotein nitrogen blood levels and urinary output. With due attention to these factors some of the most severely hypertensive patients were benefited. Each patient was judged and evaluated on his own merits.

We have found that moderate intelligence and ability to follow directions were among the basic requirements in selecting patients for pentolinium tartrate therapy. We have taught a member of the family to use the blood pressure cuff and regulate the pentolinium tartrate dosage according to the individual response learned during the hospital stay. For instance, in a sample situation, a patient would be instructed as follows:

Take Reserpine .25 mg. 3 times daily.

Take pentolinium tartrate 40 mg. every 8 hours except at 2 A.M. if systolic blood pressure is over 180. If systolic blood pressure is less than 180, but more than 150, take pentolinium tartrate 20 mg. 3 times a day, one-half hour before





showed no active parenchymal disease. CT ratio was 18.5 to 33 cm., with cardiac outline revealing left border preponderance and cardiac enlargement. Cardiac fluoroscopy showed the right atrium and right ventricle and the left ventricle to be moderately enlarged. A very minimal questionable enlargement of the left atrium was present. The aorta was markedly uncoiled. Urinalysis showed a 1+ albumin, with occasional WBC, and specific gravity of two specimens was 1.008 and 1.011. A concentration test was not attempted because of the patient's elevated NPN. Retrograde pyelograms were normal. White blood count was 9,400 with normal differential, Hgb. was 11 Gm., sedimentation rate 32 mm., and PCV 36 per cent. Total eosinophil count was 63 cir. eosinophils per cu. mm. Blood serology was negative. NPN was 58.8 and 57.3 mg. per cent on two occasions. Total serum protein 6.6, with albumin 3.7, and globin 2.9 Gm. per cent. Fasting blood sugar was 99 mg. per cent. Intravenous PSP showed 1% excretion in 15 minutes, and a total of 30.5% in two hours. Serum sodium 148, and potassium 4.2 mEq. Serum chloride 98, calcium 10.5, inorganic phosphorus 3.7 mg. per cent and  $\text{CO}_2$  24.6 mEq.

**Course in hospital.** After admission the patient was placed on a low sodium diet and given Rau-wiloid-2 mg. q.i.d. with phenobarbital 32 mg. q.i.d. A Regitine test for pheochromocytoma was negative. His eyegrounds were checked by Dr. Allen Lawrence, consultant in Ophthalmology, who felt that the patient showed Grade I hypertensive changes and Grade II arteriosclerotic changes, and some macular degeneration, probably on a basis of obliteration of small capillaries in the choroidal circulation. No hypertensive retinopathy was observed at this time.

The patient was also seen by Dr. H. Shelley of the G.U. service in regards to the recurring hematuria and cystoscopy was done on September 16, 1954. There was a posterior urethral stricture and moderate lateral lobe prostatic enlargement. It was felt that he would probably be benefited by a transurethral resection at a later date.

Blood pressures were checked twice daily on the ward with the patient on the above diet and medication and the patient's systolic pressure at no time exceeded 210. Usually the range was systolic 200, diastolic 100 or 110. It was felt that this patient had severe cardiovascular hypertensive disease and chronic renal insufficiency secondary to this.

It was felt that the tranquilizing effect of rau-wolfia added to the pentolinium was probably the best combination that could be used. Accordingly he was given 50 mg. of pentolinium tartrate every four hours beginning October 15, 1954, and blood pressure was maintained at average level of 200/110 with various fluctuations at night. He had frequent hypotensive episodes with initial adjustment of dosage, but his condition gradually improved. He was followed at weekly intervals in the Cardiac Clinic and the blood pressure readings

recorded at home were elevated. It was felt he was making very satisfactory progress. On March 29, 1955, it was found that the NPN was 39 mg. per cent, PSP had risen to 55 per cent. He had no further syncopal attacks, no dyspnea, or precordial pain. He was allowed to do light work around the house without mishap.

**Case 2.** (Fig. 2), T.B., a Negro female, age 52, was admitted to the hospital on October 22, 1954, in a stuporous state.

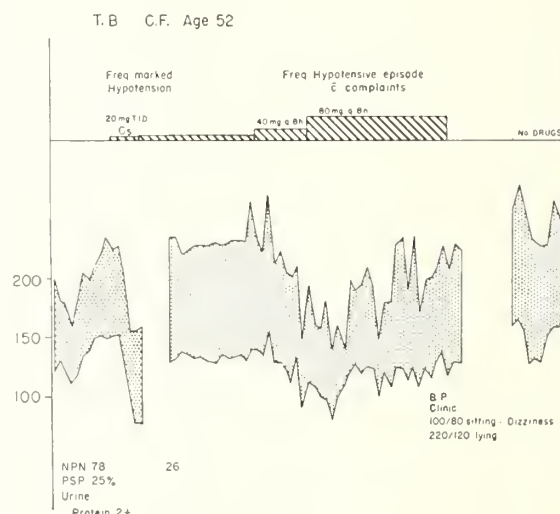


FIG. 2

She had been followed in the Medical Clinic during July and August, 1954, and was observed during several episodes of hypertensive encephalopathy, associated with syncope. During this time the blood pressure varied between 170-200 systolic and 120-180 diastolic. She was urged but refused to enter the hospital. On the morning of October 22, 1954, she was brought to the hospital by a member of her family in a semicomatose state, unable to respond to questions. Two days before admission she had slipped into this state of stupor from which she could not be aroused.

On admission she was found to have a blood pressure of 170/110, pulse 90, respirations 24, temperature 99.8°. The skin was dry. She was semi-responsive, following the examiner with her eyes, but being unable to speak. There was no evidence of trauma. The retina showed marked arteriolar constriction, with very few old exudates, and one hemorrhage in the left eye. The neck showed the trachea to be in midline and the thyroid not enlarged. The mouth was dry; gag reflex was present. The lungs were clear. The heart was enlarged; the sounds were regular; a loud systolic murmur was present at the apex and the aortic second sound was accentuated. There was a precordial friction rub which disappeared after 24 hours. The reflexes in the upper extremities were hyperactive. There was an equivocal Babinski.

Urinalysis showed a 2+ proteinuria with an occasional red cell. White blood count was 12,000, sodium 120 mEq., potassium 2.7 mEq., NPN 72



mg. per cent. Spinal puncture showed a normal pressure, protein 39 and sugar 79 mg. per cent; Wassermann was negative. L.E. preparation was negative. Sick cell test was negative. PSP was 25 per cent on admission; 3 weeks later 55 per cent. Chest X-rays showed increased diameter of the heart and moderate uncoiling of the aorta. An intravenous pyelogram showed prompt excretion of the dye bilaterally. Retrograde pyelograms were normal. The electrocardiograms showed typical changes of strained pattern. Benzodioxane test was negative; Regitine test was positive.

The patient was placed at bed rest and given fluids. She made a startling recovery within four days and it was thought perhaps she had a toxic psychosis as the result of Serpasil which she had received just prior to admission. The NPN returned to normal. Blood pressure continued to fluctuate, but the patient was in no particular distress. She was given pentolinium tartrate, 20 mg. three times daily and Serpasil 5 mg. three times daily, and discharged to be followed in the Cardiac Clinic. A member of her family was taught how to take her blood pressure. She was lost from the clinic for a period of about a month and on November 24, 1954, returned very "nervous." The blood pressure was 224/160. The survey of blood pressure readings recorded at home showed marked fluctuation and it was postulated that the pentolinium tartrate was a contributing factor in the hypotensive episodes. She was continued on pentolinium tartrate, 20 mg. every eight hours and Raudixin 100 mg. three times a day. The blood pressure was recorded three times daily. After a week on this regimen she felt very well without any symptoms and was up and around.

On January 5, 1955, she was observed in an episode of marked weakness and dizziness, but denied that she was in any acute distress. The sitting blood pressure was 100/80. She was placed in a recumbent position and her blood pressure was 220/120. The pentolinium tartrate was discontinued. She was given Raudixin 100 mg. t.i.d. On January 22, 1955, the blood pressure was back up to 250/140. These were continuous readings observed at home and in the clinic. It was apparent that the discontinuance of pentolinium tartrate produced a striking difference in blood pressure. This was resumed with 40 mg. of pentolinium tartrate every eight hours and the blood pressure fluctuated between 140/100 to 140/110 with occasional dizziness.

A survey of the blood pressure readings recorded at home showed marked fluctuation and it was postulated that the pentolinium tartrate was a contributing factor in the hypotensive episodes, and that pheochromocytoma was unlikely. Pentolinium tartrate 50 mg. twice a day and Raudixin 100 mg. three times a day was continued, beginning February 2, 1955, and for the following two months this patient's symptoms were well controlled, although there was a distinct rise in the blood pressure in the recumbent position. The

blood pressure remained at 140/100 in the standing position and she was free from any dizziness or fainting.

### Summary

Hypertension can be relieved for a long time in a number of patients by Apresoline, rauwolfia, veratrum, hexamethonium, Hyphex and pentolinium tartrate.

The methods of using these drugs is described.

Most patients with hypertension need no treatment. The hypertensive drugs described are not without hazards, but are worth continuing until better methods appear.

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### Discussion

DR. E. WHITE PATTON (Chattanooga): Dr. Riven has presented a very capable survey of hypertension and the use of the antihypertensive drugs. I should like to add emphasis to a principle properly stressed by him.

The decision as to the necessity of treatment, and more importantly the choice of drugs to be employed, is entirely dependent on the total clin-



ical appraisal of the patient. Not primarily on the level of blood pressure.

Several investigators have recently studied the natural, uninfluenced course of hypertension and hypertensive vascular disease. More detailed information of this kind is extremely important in choosing the appropriate treatment drug or combination of drugs. It is also essential in evaluating the efficiency of therapeutic measures.

These studies confirm the clinical impression that most hypertensive patients present a relatively static or slowly progressive course as regards organic and functional impairment of brain, heart and kidneys. Fortunately a minority exhibit the "accelerated" or malignant phase of cardiovascular deterioration.

As Dr. Riven pointed out, recognition of progression of cardiovascular deterioration is the most important factor in determining need of treatment. Consequently repeated observations of ocular fundi and renal and cardiac functions are of a great deal more importance than mere blood pressure levels. Adherence to this principle is imperative if maximum efficiency is to be obtained from the drugs now available.

At the present time the most popular drugs employed are the rauwolfia group alone or in combination with a homologue of hexamethonium, pentolinium tartrate.

Obviously the rauwolfia group alone is utilized in the patients showing relatively static or only slowly progressive vascular changes. The actual value of the rauwolfia group in arresting this progression cannot be assessed at the present time. Only years of observation can determine its efficiency in this respect. But in view of the minimal

adverse effects of this therapy and the definitely beneficial symptomatic results, its use seems entirely justified.

On the other hand the ability of combined rauwolfia-pentolinium therapy to modify the course of hypertensive vascular disease is reasonably well established. Numerous workers have demonstrated its efficiency in alleviating such objective states as congestive failure, angina, and renal failure associated with hypertensive cardiovascular disease. In keeping with its increased therapeutic potency, one could well expect more adverse side effects and the necessity for more careful regulation of these drugs. Dr. Riven has described the usual physiological adverse effects. Smirk and others have pointed out instances in which employment of this regimen may result in more serious complications. Occasionally otherwise successful rauwolfia-pentolinium therapy may lead to increasing renal failure in those with poor renal function at the onset of treatment. Such a situation may be detected by the course of the NPN. Similarly much care should be exercised in the treatment of patients with recent coronary or cerebral thrombosis. Many feel that pentolinium therapy is not wise until at least six weeks after such an episode. And in view of some reports of increased angina induced by this regimen, it seems wise to reduce blood pressure particularly slowly in patient having angina.

Currently available drugs leave much to be desired in controlling the ravages of hypertensive vascular disease. Yet they clearly may prolong life in some groups and more importantly are capable of making living more comfortable for most.

*A paper to be read with great profit by every physician.*

## IATROGENIC DISEASE\*

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In reviewing various medical texts I have been unable to find any reference to a disease which has been discussed in many recent articles,—Iatrogenic Disease.<sup>1-9</sup> There are no statistics to indicate the frequency of this condition, but there are several reports suggesting its magnitude and importance.

According to the definition in Dorland's Medical Dictionary the term "iatrogenic" is applied to disorders which are generated in the patient by the physician's suggestion. These are based on the physician's examination, manner and discussion of the patient's difficulties. Iatrogenic disease, therefore, is a disease which is created by the physician and as such is potentially a hundred per cent preventable. Physicians have been accused of many things, and now we are being accused of making our patients sick. It is a very condemning idea, referred to many times, but I doubt if many physicians are really interested in having their patients sick.

Patients take precedent over physicians because if there were no patients there would be no physicians. It is evident that the two groups do not see themselves alike, so it is well to recognize the difference in their outlook. A patient is interested in relief of a symptom, while a physician is interested in the diagnosis as he cannot successfully treat the patient's symptom until a diagnosis is established.

It is becoming increasingly apparent to physicians that many factors occur in the care of patients which seem to fall outside the realm of the formal science of medicine as it was taught in medical school. In an age that is now past in the cities, and which has radically changed in the country, the practicing physician saw his patient in his normal and usual environment. After a few years' practice he knew intimately, not by formal study but by everyday contact, his patient's ancestry with his predilection

for certain diseases or traits of character; he knew about his up-bringing, good, bad or indifferent; his schooling or lack of it. He knew the members of the family, both those living at home and elsewhere, and he knew much about those who had died. He knew the details of his patient's occupation, whether that particular work was what the patient wished to be doing or whether he had been forced to do it by his family or by circumstances. In short, he knew very accurately, and in great detail, what sort of a person the patient was and in what sort of an environment he lived. His knowledge of all these factors usually far surpassed his knowledge of the so-called scientific medicine. Today we have greater scientific knowledge, but lacking this personal knowledge we may get the wrong impression of a person who comes to our office, for we have not acquired a true picture of what sort of person the patient is just by seeing him against the background of the office.

For most people the prospect of visiting a doctor for himself or any member of his family is quite frightening. This may be and doubtless absurd but the fear is deeply rooted. We are living in an area which has been termed "The Age of Fear." Every day we are bombarded by fear propaganda: war, juvenile delinquency, economic insecurity. Also, most of our fund-raising projects for needed medical research are based on fear. Add all these present-day fears to those of the past when doctors were associated with witch-doctors casting out the devils of disease, bleeding a patient to drain off the poison, and always associated with death, then you have greater sympathy for the patient's fear of a doctor. It is our duty to recognize that the patient, his family, and all those concerned, are frightened, and we must base our words and our actions to alleviate this as much as possible.

The degree of fear is determined by personal sensitivity, and the only safe way is to treat every patient as a sensitive person. This person, more than likely, has been in-

\*Read before the Meeting of the Tennessee State Medical Association, April 12, 1955, Chattanooga, Tenn.

doctrinated through newspapers, magazines, radio and television, in matters pertaining to medicine. Recent movies have taken this up to the point where a review of one in *Newsweek* ended as "Not recommended for hypochondriacs." This knowledge contributes greatly to the necessity of our adequately explaining to the patient the cause and nature of his particular symptoms. The patient correctly believes that there is always a reason for a symptom.

In reviewing the patient's history there is a basic technic which we can learn from business schools which orient their interviewing to the attention given the person interviewed: One should listen to what he wants to say, what he does not want to say, and what he cannot say without help. After the history and picture of the background are obtained the physical examination follows.

Physicians often subconsciously create an unfavorable relationship with the patient during the physical examination. Some of the commonest causes of this are: Too abrupt depression of the tongue with the depressor during examination of the throat, causing unnecessary gagging. Unnecessary exposure of the patient in a cold room and the application of cold hands or a cold stethoscope to the skin. Requesting such rapid and deep respirations during examination of the lungs that dizziness results. The insertion of the examining finger in the rectum or vagina without giving the patient warning that some pain will result. Leaving female breasts or genitals exposed longer than is needed for adequate examination without realizing that such a factor as genuine modesty still exists. The habit of consideration of the patient's feeling in the physical examination can be cultivated. The most important consideration is that the physician should not be unnecessarily abrupt. After the interview and examination the doctor should review and advise what special studies are necessary and the reason for these special studies.

The physician should be alert in his remarks and acts. There is always the possibility of misinterpretation of symptoms and findings. Too often a patient suffers from a laboratory test rather than a disease. Recently a referring physician wrote on his

consultation request, "this patient does not have iatrogenic disease," but in taking the history from the patient the physician had told her that the studies had been negative, "but you might have some rare disease." When the physician reassures the patient it must be clear-cut, there can be no hedging. Alvarez states, "A physician is never going to cure unless he is positive when he says the examinations showed nothing wrong. If he hedges and straddles and tries to keep a line of retreat open in case things go wrong the worried patient will never be cured."

Let us assume that the call for the physician was a result of symptoms which had their origin on other than an organic basis. The misdiagnosis and mismanagement of the so-called "functionally ill" patient is the medical scandal of today. The doctor who turns his patient away with "There's nothing the matter with you, it's all your nerves" is quite likely to start the patient on a travel from physician to physician, from clinic to clinic and frequently, but unfortunately, from operation to operation.

Every person has symptoms of emotional origin at varying times in life. There are many simple examples of how tension may result in physical symptoms. One who is called on to make a speech, for example, has a dry mouth, a tight feeling in his stomach, is frequently unable to eat and may have an uncontrollable tremor. You are all familiar with anger in which a person has a flushed face, his fists are frequently clenched, and which can result in headache. A near-accident will cause one to feel weak and have cardiac palpitation, but this certainly does not mean organic heart disease. It certainly is not hard to explain to a patient that his symptoms are the body's "normal" response to prolonged anxiety or tension and are not indicative of dread disease or an incurable lesion. It is very important to tell a patient that a certain amount of tension and stress is a normal part of everyday life. This, if prolonged, can result in physical symptoms.

Everyone has anxiety and problems. It is pointed out that each person has a limit of tolerance for tension or stress and that when their limit is exceeded symptoms occur. You are familiar with the soldiers and airmen who were perfectly normal, physically



and mentally, but if kept in combat too long developed anxiety symptoms. When they were removed from the stress producing situation and their total stress load reduced the symptoms quickly subsided. It is emphasized that there is nothing abnormal or weak about finding one's self in a position in which one's stress load exceeds the tolerance for stress. It happens to most everyone at one time or another.

There is a feeling among the laity that emotional disorders are evidence of character weakness, social disgrace, cause for shame and criticism. The physician can imply he has similar feelings by assiduously avoiding the emotional sphere of questioning. Furthermore, he may not only imply but may actually feel this way about disorders due to emotional disturbances, and this feeling results in behavior on his part which is a powerful fixing agent in iatrogenic illness.

It is possible that the physician may have difficulty in coping with the patient's problem and become irritated, consciously or not. He may infer, "I can't bother with you, go see a psychiatrist." This frequently infers to the patient that the doctor feels that he is a malingerer or "a nut." I occasionally see patients who come absolutely for the purpose of disproving or denying symptoms of emotional origin, and in this situation there is frequently an impossible barrier to therapy. The patient's anger has made him more interested in proving his doctor wrong than in seeking help.

Unfortunately, iatrogenic illness has increased with the increasing tendency toward specialization. Much of the progress of medicine has been by the various specialties, but increasing specialization has led medicine to follow the example of industry, to establish a production line. The human chassis passes under the eyes of a regiment of specialists and one does this and another does that, each restricting himself to his particular field. The specialist limits himself to his specialty in searching for the source of the patient's illness. The cardiologist examines only the heart, the gastroenterologist the stomach, the ophthalmologist the eyes, etc. The doctor may become blinded by worship of chemical and laboratory procedures to the point where he for-

gets that patients are people who, in infinitely complex ways, become entangled in the emotional snarls of life. It is not enough to know that a woman has palpitation; it is necessary to discover, for example, that she has it during her husband's absence and to imagine what disturbing fear she may have from which his presence protects her. Human sympathy is a good doctor's indispensable attribute. He can never win confidence if he is impatient, disinterested, in a hurry to go golfing or hostile because the symptoms are "ridiculous and unreasonable." There is nothing unreasonable in medicine.

The most important consideration of iatrogenic disease is that its separation from other illnesses points out the responsibility of the physician in its production, and gives hope that the physician so forewarned will be less likely to produce the disease in the future. Successful treatment depends on successful reassurance of the patient. It is the hard lot of the doctor to know that in the end he is always defeated; his victories, at best, are temporary. Death he can never conquer; but death's ally is fear, and this ally the doctor can defeat. Let him help the patient conquer fear then he will win many a skirmish; and if he can never hope to win the last grim battle, he can at least do much to rob that ultimate defeat of the terror that is its greatest pain.

With this orientation the practitioner becomes a wise physician who understands human beings and who, above all, is a human being himself.

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### Discussion

FRANK W. STEVENS, M.D. (Nashville): I think Dr. Boswell is to be commended for bringing this subject to our attention in this interesting and forceful manner. To actually cause illness is, of course, inconsistent with our aims and goals as physicians, and at first glance it would seem almost inconceivable that illnesses created by physicians should exist. Yet they certainly do exist and it behooves us all to study each patient carefully and to be discreet in what we say to him.

It has been pointed out that most patients when visiting a doctor are fearful. Sometimes the doctor also is fearful,—overly fearful that he will miss something, and as a result he may order many costly and unnecessary examinations, which instead of relieving the patient's anxiety, may serve to fix in his mind the belief that he has some organic disease,—either one that the doctor will not tell him about or one that the doctor is unable to find. The doctor's insecurity may also tend to make him explain a patient's symptoms on some unimportant physical finding in order to relieve his own desire for an explanation, or in a misguided attempt to satisfy the patient. Then the

urge to "do something" may lead the doctor to prescribe medication that may convince the patient that the doctor thinks he is seriously ill. Of course all of us make honest mistakes and I suspect that all of us are guilty at one time or another of alarming our patients unnecessarily.

Even though the physician may know that symptoms are emotional in origin he may be reluctant to tell the patient this. However, the wide publicity given emotional disorders and psychosomatic illnesses in recent years makes such explanations, when given tactfully, much more acceptable to patients now than was true some years ago.

Another very important factor is time, or rather the lack of it. In a busy practice the doctor may feel that he cannot take the time to listen to a patient and give adequate explanations, yet actually a little extra time taken at the outset may save a great deal of time later for the doctor and much discomfort, time and expense for the patient in medical shopping and examinations.

Iatrogenic illness has undoubtedly occurred as far back in history as the existence of physicians. It is still occurring and presentations such as Dr. Boswell's are most desirable to bring our mistakes to our attention since as he pointed out this particular illness is theoretically 100 per cent preventable.

*The authors present an interesting theory, and evidence to substantiate it, for the cause of an obscure condition.*

## OBSERVATIONS ON THE ETIOLOGY AND THERAPY OF INFANTILE CORTICAL HYPEROSTOSIS\*

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Infantile cortical hyperostosis has been described as a disease of "obscure cause and pathogenesis" which affects infants under six months of age.<sup>1</sup>

### Clinical Picture

It has three clinical features which are common to all patients: hyperirritability, swelling of the soft tissues, and cortical thickenings of the underlying bones.

Extreme *hyperirritability* usually is present during the early phases of the disease. The symptom may precede the swellings of the soft tissues for some days or weeks or may begin concomitantly with them.

*Soft tissue swellings* appear suddenly with the beginning of the disease and are characterized by a painful tender, wooden or waxy hardness. This process is deeply situated in the tissues and never extends outward to the subcutaneous fat or skin. The swellings in the early phases of the disease are exquisitely tender but the overlying skin while slightly warm is never discolored. The swellings occur before roentgenographic changes appear in the underlying bones and involute long before the hyperostoses become invisible to X-rays. They involute without suppuration and involvement of the regional lymph nodes. Sometimes they recur at their original or at new sites. Strangely, swellings of the facial and scapular areas have never appeared first after the sixth month of life. The variable protracted course with its remissions and relapses is a characteristic feature of the disease.

Most of the patients have had *fever* during the early swellings, except in a few of the younger infants.<sup>2</sup> Other clinical features present in some cases have been *pallor*,

*painful pseudoparalysis* and *pleurisy*.

*Cortical hyperostoses* have involved all the tubular bones of the skeleton. The mandibles, scapulas, and parietal and frontal bones are the flat bones which have been affected. Scalpular lesions are always unilateral and begin during the first six months of life. Mandibular lesions never appear first after the first half year and they may be quite extensive. The mandible, the clavicle and the ulna are the bones involved most frequently. The ulna is the most commonly affected of all the bones of the extremities and may be extensively sclerosed while its companion, the radius, is normal. Cortical hyperostoses are more prominent in the lateral arcs of the ribs, and in these areas the underlying pleura may be involved.<sup>3</sup>

Hyperostoses of the pelvic bones and the vertebral column have not been described.<sup>1</sup>

Clinical and roentgenographic recovery is complete in all patients. Hyperostoses are usually invisible within twelve months, or even much earlier, after the swellings of the soft tissues and fever have subsided. We have seen, however, one patient who had persistent mandibular enlargement at the age of three years.

The common positive *laboratory findings* are increased sedimentation rate and increased phosphatase activity of the blood serum. All other laboratory studies have been normal. Serologic tests for viral and bacterial agents have been uniformly negative; all bacterial cultures of the tissues and fluids have been sterile.

### Pathology

The morbid anatomy of the affected tissues is obscure. Biopsies of bone from the sites of hyperostoses have shown edema and thickening of the periosteum with external hyperplasia of the cortex. Specimens taken from the soft tissue swellings have exhibit-

\*Read before the Annual Meeting of the Tennessee Pediatric Society, April 12, 1955, Chattanooga, Tenn.

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ed scattered areas of necrosis in the muscles associated with fibrosis.<sup>1</sup> A significant finding in all cases has been the absence of regional lymph node enlargement as related to the sites of the swellings and hyperostoses.

### Case Reports

Lack of evidence of local infection and the uneven protracted course of the disease have rendered the evaluation of etiologic factors and therapeutic agents uncertain. Recently, two infants with early cases of infantile cortical hyperostosis have come under our care. We believe their responses to therapeutic measures employed have shed some light on the cause and treatment of the disorder.

*Case 1.* M.L.R., white male, 4 months of age.

*History.* The infant was first seen on March 19, 1954, because of extreme irritability, a slight fever and marked swelling and tenderness of the lower face and jaw of two weeks' duration.

The infant was delivered at full term after a normal pregnancy; birth weight was 7 lbs. 4 ounces. He had "mild colic" during the newborn period but had grown and developed normally. He was breast fed for six weeks and then started on equal parts of evaporated milk and water. Restlessness was especially present about twenty minutes after the bottle feedings. At the age of two and three months he was given "shots" for pertussis, diphtheria and tetanus.

The *family history* was significant in that the mother had had asthma as a child and has hay fever; several of her relatives have had allergic manifestations. A paternal aunt was allergic to milk and several paternal uncles and aunts have had migraine headaches.

*Physical Examination.* Weight was 14 lbs. 8 ounces, length, 24 inches, temperature, 99.8 rectal; he was well developed and nourished. He was quite irritable and fretful, and there was slight pallor of his face and body. The face was markedly swollen particularly in the preauricular areas and about the lower jaw and upper anterior cervical regions. The overlying skin was slightly warmer than normal; it was not discolored. The tissues about the jaw presented a painful wooden or waxy hardness. There was no local adenopathy and the nose, mouth and throat were free of inflammation. The remainder of the examination was normal.

*Laboratory Data.* Urine was negative; Hgb. 12 Gm.; RBC 4.5 million; WBC, 14,850, with a differential of lymphs, 75%, polys, 24%, eosino, 1%; sedimentation rate, 40 mm.; Kahn negative.

Roentgenogram of the mandible showed no bone changes but there was considerable edema of the contiguous soft tissues. A skeletal survey was normal.

*Diagnosis.* It was our opinion this infant presented a typical picture of early acute infantile cortical hyperostosis. Dr. Luke L. Ellenburg, of Greeneville, who had observed cases of infantile cortical hyperostosis during his residence training, Department of Pediatrics, Vanderbilt University Hospital, had followed this case during the previous two weeks. It was his opinion also that the infant had infantile cortical hyperostosis.<sup>1</sup> He kindly furnished us with roentgenograms of the mandible taken on March 10.

*Treatment and Course.* Because of the suggestive allergic background and the extreme hyperirritability of the patient, Mull-Soy was substituted for the evaporated milk formula. Within a period of 24 hours most of the irritability had ceased and after 72 hours the soft tissue swelling began to subside and was altogether involuted in a week's time. Some two months later evaporated milk was again fed the infant and the irritability and swelling immediately recurred. A similar occurrence was observed after the ingestion of ice cream.

A follow-up study on March 10, 1955, showed no evidence of soft tissue swellings or hyperostoses. The child had remained well on Mull-Soy.

*Case 2.* B.E.B., white female, 6 months of age.

*History.* This baby girl was first seen on January 11, 1955, with the complaint of "marked swelling of the jaw and cheeks" of two and one-half months' duration. Her illness began October 25, 1954, with rather marked irritability and a low grade fever. She had been on evaporated milk and was changed to a low fat formula because of persistent diarrhea and mild colic. Swelling of the cheeks and jaw was first observed on November 1, 1954. The swelling of the soft tissues persisted in spite of prolonged courses of penicillin and Aureomycin; they were firm and tender but not reddened. With the appearance of edema of the soft tissues, the formula was changed to Mull-Soy (November 1). Beef and strained meats, banana, gelatin, cottage cheese, rice, oatmeal and mixed cereals along with fruits had been added to the diet at about this time. Afterwards there was less irritability and swelling but most of the latter persisted along with some tenderness. At about November 15, the baby refused to stand and would cry if forced to do so. Presently swelling was observed of the right leg just above the ankle. The baby had a low grade fever during most of the present illness.

The birth weight was 6 lbs. 12 ounces and the pregnancy was normal. Tri-Vi-Sol was started at the age of two weeks. She had had one cold and one injection of P.D.T. at the age of six months (December 15). The *family history* revealed that a paternal great uncle had severe asthma most of his life.

*Physical Examination.* The patient was a well developed and nourished infant, weighing 17 lbs. 3 ounces, having a length of 26¼ inches, and a temperature of 100 rectally. There was moderate facial pallor and obvious great swelling of the cheeks, jaw and upper anterior cervical regions.

These areas were slightly tender and were waxy hard. Tender swelling with wooden hardness was found over the tibia just above the right ankle. There was no discoloration of the skin over the swollen parts; no regional or local adenopathy was demonstrable. The ears, nose and mouth were free of infection. There was slight redness of the pharynx and the infant coughed occasionally. The infant was reluctant to stand and was more fretful if forced to do so. The remainder of the examination was within normal limits.

**Laboratory Data.** Urine was negative. The blood showed Hgb. 9.5 Gm., RBC, 4 million, WBC of 7,800 with a differential of polys. 29%, lymphs. 60%, mono. 9%, eosino. 1%, baso. 1%, sedimentation rate 19 mm. The calcium was 12 mg.% (6 mEq), phosphorus, 5.4 mg.% (3.2 mEq), and alkaline phosphatase, 8 Bodansky units. The Kahn was negative. Hemoglobin, 9.5 Gms. (Haden-Hausser); R.B.C., 4,010,000; W.B.C., 7,800; PMN, 29%; Lymphocytes, 60%; Monocytes, 9%; Eosinophils, 1%; Basophils, 1%. Tuberculin (O.T.), 0.1 mg. (intradermally) gave a negative result.

A roentgenogram of the mandible showed "marked thickening and diffuse hyperostosis; there was also diffuse swelling and thickening of the soft tissues. All other bones were normal including the area of the right tibia just proximal to the ankle, although there was evidence of soft tissue swelling in this region."

**Hospital Course.** The baby was hospitalized on a diet of Mull-Soy alone. She was given no treatment for the mild bronchitis. Irritability rapidly subsided and within 72 hours the swelling of the jaws began to recede. She began to stand on her feet with support. The infant had a low grade fever during her hospital stay of four days.

On January 28, skin tests (intradermal) were done.\*

| Food       | Reaction  |         |
|------------|-----------|---------|
|            | Immediate | Delayed |
| Milk       | —         | 1+      |
| Beef       | 1+        | 2+      |
| Rice       | —         | 1+      |
| Oats       | +         | +       |
| Tri-Vi-Sol | 3±        | 3±      |
| Mull-Soy   | —         | —       |
| Barley     | —         | —       |
| Chicken    | —         | —       |

The infant was discharged on Mull-Soy, barley cereal, carrots and chicken. She was given vitamins B<sub>1</sub> and C. The mother soon detected barley caused recurrence of the swelling of the soft parts, increased irritability and refusal to stand with support. With the offending allergens eliminated from the diet the infant became happier and the swellings receded.

On March 1, an X-ray "recheck" of the mandible showed considerable involution of the hyperostosis.

\*Skin tests done by Claude Frazier, M.D., Pediatric Allergists, Asheville, N. C.

### Comment

Infantile cortical hyperostosis has been attributed to a viral or bacterial infection<sup>3</sup> even though local lymphadenopathy has not been demonstrated, all serologic and bacteriologic tests have been negative, and antibiotic therapy has proven ineffective. Antihistaminic therapy has also been tried without avail.<sup>6</sup> However, this is not surprising since antihistaminic drugs often fail in cases of infantile atopic eczema and in other allergic manifestations.

The etiologic agent must be one to which young infants are susceptible and one that initiates a disease of variable courses with many remissions and relapses. It is capable of provoking in the host a markedly brawny edematous low grade inflammation reaction deep in the soft tissues in seemingly selective sites, notably the mandibular and scapular regions. The underlying bones develop hyperostoses. All of these pathologic changes must be reversible since afflicted infants ultimately recover.

In view of the foregoing we are of the opinion that infantile cortical hyperostosis is the result of an allergic phenomenon because of immediate and marked remission of the soft tissue swellings and tenderness, the subsidence of irritability, fever and pallor when the offending allergens (food) have been removed. The patient in case 1 showed no cortical hyperostosis after the offending allergen (milk) was removed from the diet, and before sufficient time and elevation of the periosteum and inflammatory reaction had occurred to permit the deposition of calcium.

Dr. Sidney Farber, Pathologist-In-Chief, Children's Medical Center, Boston, Mass., in a recent communication stated:<sup>7</sup> "It is entirely possible that with a persistent edematous swelling involving both subcutaneous tissues and the periosteal tissues, there might be sufficient elevation of the periosteum to allow the deposition of new bone under it. If, in addition, there were an allergic component to the edematous process of a cellular type, it is entirely possible that the picture of a very moderate degree of chronic inflammation with a rather significant amount of bone deposition underneath the periosteum might occur giving the picture of cortical hyperostosis. . . .

"Allergic phenomena involving bones are very rare indeed. If infantile cortical hyperostosis is an allergic response by the mechanism of periosteal elevation by edema and subsequent bone deposition, it would be the first lesion of this sort to be described."

### Summary and Conclusions

1. The clinical features of infantile cortical hyperostosis have been reviewed.
2. Two early cases of the disease that showed marked and permanent improvement on removal of offending allergens from the diet have been reported.
3. We believe, therefore, that infantile cortical hyperostosis results from an allergic phenomenon wherein edema and inflamma-

tory reaction cause elevation of the periosteum and the deposition of calcium.

4. Early cases of the disease should be studied and investigated from the allergic viewpoint.

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### Pitfalls in the Care of Cardiacs: Levine, Samuel A., *Ann. Int. Med.* 42:1270, 1955.

This is a typical Levine article, packed with the fruits of years of clinical observations and the careful analysis of these data.

In the approach to the question of the possible presence of heart disease, Levine emphasizes the importance of diastolic versus systolic murmurs. Enlargement of the heart is an important sign of organic heart disease, as is a decidedly abnormal electrocardiogram. Systolic murmurs and almost all the various arrhythmias are seen at times in the absence of heart disease.

The presence of congestive failure can best be judged by examination of the peripheral circulation. An increased venous pressure or pulmonary congestion, judged either clinically or by measurement are important. Enlargement of the liver or edema of the ankles have many causes other than a failing heart. The heart itself may show a diastolic gallop as the only reliable cardiac sign of failure.

The decision as to the existence of angina pectoris must often rest on the history obtained. Confusion may exist because of the presence of an hiatus hernia or gallbladder disease, although to make the problem more difficult, they may actually coexist with true angina pectoris. Differentiation of angina during an attack may be had, if the pain disappears during a period of slowing of the heart by carotid-sinus massage. The pain of dissecting aortic aneurysm appears at the center of the throat and radiates into the back of the neck. In contrast angina is referred to the lateral aspect of the neck and jaw.

Normal electrocardiograms at rest, or after exercise, may be seen in patients with true an-

gina, and conversely abnormal findings may be seen in the absence of organic heart disease.

The "sighing"-type of dyspnoea labels itself as functional in origin. The dyspnoea due to emphysema or pulmonary fibrosis must be distinguished from cardiac dyspnoea in order that correct therapy can result in a good therapeutic result.

The advent of surgical procedures for the correction of mitral stenosis, congenital anomalies and the possibility of curing patients with thyrotoxic heart disease, constructive pericarditis, and beri-beri heart, place a severe burden on the doctor for accuracy of diagnosis.

When treatment is necessary the sly toxicity of the pure glycosides digitoxin and digoxin must be watched for, particularly the presence of a paroxysmal tachycardia with block. Mercurial diuretics are most helpful, but work more effectively when given intravenously and in conjunction with proper preparation with Ammonium Chloride, to insure the proper electrolyte status of the patient. The diuresis may be even more effective after a thoracentesis, abdominal paracentesis, or the use of mechanical aids such as Southey's tubes. Phlebotomy may also help direct proper response by the patient to diuretics.

Finally, Levine emphasizes his opinion relative to the position of the patient. He believes that placing the patient in failure, or after a coronary, in a chair, may facilitate recovery to a marked degree. This can be explained by the fact that it has been recently demonstrated, by direct catheterization studies, that the work of both the normal and the diseased heart is 23 per cent greater in bed, than with the patient in a chair with the feet down. (Abstracted for the Middle Tennessee Heart Association by Albert Weinstein, M.D., Nashville.



## CLINICOPATHOLOGIC CONFERENCE

### City of Memphis Hospitals\*

#### Histoplasmosis

W. S. Gilmer, Jr., M.D., George S. Lovejoy, M.D., and  
Warren Kyle, M.D.

#### History

P.A.C., a 4 month old white female, was admitted to the John Gaston Hospital on January 10, 1954, after an illness of some three weeks duration. This illness began as a "cold" and was treated with home remedies without benefit for about a week. She was then taken to a local physician who told the mother that the child had a "rising in the head," and prescribed penicillin tablets and ear drops. Unimproved after three days on this therapy, she was returned to this physician who gave her an injection of penicillin and prescribed paregoric for restlessness. She made no improvement and two weeks prior to admission developed a cough, which gradually increased in frequency and severity. Four days before admission she began to "run a temperature" in the early evenings.

Review of systems when first seen here revealed that some discharge had been seen in the eyes and ears three days previously, rhinorrhea had been present since onset of illness and a dry hacking cough had persisted for two weeks. There had been no attacks of cyanosis or dyspnea. Although she had a good appetite and no bouts of diarrhea or vomiting since birth, gain in weight had been slow. With the onset of fever, the urine had become "a little too dark" and this persisted to the time of admission. The parents had not noted any edema. The extremities apparently had not been affected.

This child was para XI of a 41 year old gravida XI mother and the pregnancy was uncomplicated ("picked cotton until two weeks before delivery"). A spontaneous delivery followed a cephalic presentation, and respirations and cry were immediate. There were no complications in the neonatal period. The birth weight was 6 pounds 7 ounces. The father, age 47, was living and well, as were the ten siblings. There were no diseases in the family, and it was believed that the baby had not been exposed to any infections or contagious diseases. The family lived in the country and had an outdoor privy. The baby had received no immunizations. She had been fed unpasteurized, unboiled cow's milk. The cow had not been tested for Bang's disease.

Physical examination revealed an extremely restless and fretful infant who constantly turned her head from side to side and seemed to keep it

in extension most of the time. She was fairly well nourished though poorly developed, weighing nine pounds 13 ounces. Temperature was 101 (F.), respirations 66 and the pulse 164 per minute. Examination revealed rhinorrhea and a watery discharge in the left ear. The neck was questionably stiff. She had a dry, hacking cough, but the lung fields were clear on auscultation and to percussion. The heart was normal in size and position, had a regular rhythm and a rapid rate. No murmurs were heard. The abdomen was distended and tympanitic to percussion. The liver and spleen were felt 2 cm. below the costal margin. The genital and rectal examinations were negative. She had an enlarged left inguinal lymph node. Neurological examination showed an extremely irritable child, questionably opisthotonic, with hyperactive deep tendon reflexes. Brudzinski and Kernig's signs were negative.

The cerebrospinal fluid was clear, contained 2 RBC and 6 WBC per c.c., sugar 46 and protein 26 gm. per cent. Left inguinal node biopsy, pharyngeal, bone marrow, urine, blood spinal fluid, and stool cultures were negative for pathogenic bacteria. WBC was 6,450 with 6 bands, 30 segs., 1 eosinophil, 2 basophils, 59 lymphs, and 2 monocytes seen on differential smear; Hgb. was 11 Gm. per cent. Urine bilirubin test was negative. Blood nonprotein nitrogen was 45 mgm. per cent, total serum proteins 5.7 Gm. per cent, with an albumin of 2.9 and globulin of 2.8 Gm. per cent. cholesterol was 154 mg. per cent. Agglutination and Wassermann test were negative. Tuberculin, histoplasmin skin test and serological test for toxoplasmosis were negative. X-ray findings of the heart, chest and lung fields were negative on admission. The spleen was definitely enlarged and the liver slightly enlarged on the abdominal film. At a later date an X-ray of the chest showed scattered reticular densities in both lung fields.

She was treated with penicillin, Aureomycin and sulfonamides. She, however, made no improvement, spiked a daily or twice daily temperature of 101-103 (F.). The patient refused food and lost weight steadily. She took a decided turn for the worse on February 10, 1954, developed severe dyspnea with some retraction of the chest wall and became ashen gray in color. She was placed on cortisone therapy, but continued a downhill course, expiring on February 14, 1954.

**DR. GEORGE S. LOVEJOY:** This is a most interesting case study. There are a few factors that I should mention concerning the history and physical examinations before entering into the differential diagnosis.

One of these factors is the statement that the child had a "rising in the head." The fact that she started this illness with an upper respiratory infection leads me to believe the "rising" refers to an abscess of the

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ear. The history states that the child had no fever until the 17th day of illness. I imagine the temperature had never been taken by a thermometer, if this child came from the usual family. People in general and parents in particular would much rather guess the temperature or to go by indirect signs of fever, than to use a thermometer. About two weeks before admission the child developed a dry hacking cough which became progressively more severe. The weight increase was slight; the diet poor. The child lived in the country and was given unpasteurized milk, unboiled well water and, I am sure, inadequately prepared food.

The unsanitary surroundings allows us a number of possibilities; typhoid fever, paratyphoid fever, undulant fever and tuberculosis, among others. The preceding course and the admission examinations are interesting.

On admission the baby had a temperature of 101 (F.) rectally. This was following treatment at home by penicillin orally and by injection. The respiratory rate was 66 and the pulse rate 164. I wonder, if this represents acidosis. Here was a child sick for 17 to 20 days, eating and drinking poorly. With the mother busy with 10 siblings I imagine her time to force fluids was limited. No laboratory work relative to blood states was given, but I believe the child was in acidosis on admission. The child had a "watery discharge" from the left ear. She had a dry, hacking cough which was severe and yet we have a note that there was a clear chest on percussion and auscultation. Later the radiologist reported a normal heart and chest with clear lung fields. The abdomen was distended and there was a hepato-splenomegaly. There was a large inguinal lymph node in the left side.

A lumbar puncture was done and recorded as absolutely normal with one exception—that there were a few white cells present. There is an argument which continually goes on, as to what level of white cells in the spinal fluid, is the upper limits of normal. Some people believe that any number of white cells found in the spinal fluid represents an inflammation of the meninges of the brain at some point. There are others who think that ten cells is the upper limit

of normal, and that anything below the count of ten would be considered as normal. Certainly a count less than ten is probably not of great significance while a count of over ten is probably of clinical significance. Here, we have a count of six cells which I think is a little more than there should be in a normal spinal fluid. We have the report of the lab that a culture of the pharynx was negative. Urine, spinal-fluid, blood, stool, bone marrow, lymph node cultures were "negative for pathogenic bacteria." Noted the words "pathogenic bacteria." Bacteria comprise only one classification of pathologic organisms, therefore, it does not rule out the possibility of this having been an infectious disease. Nothing was said of the urine except that it was dark and that the urine culture was negative. No urinalysis was given. No other mention was made of the bone marrow except that the culture was negative. No other mention was made of the lymph node which was removed by biopsy from the inguinal area, except that it was negative for pathogenic bacteria. A complete blood count was done and it was normal. Eleven grams of hemoglobin is considered normal for a baby of this age and was surprisingly good considering the fact that this baby had been sick for three weeks. One thing may have happened: this child may have been somewhat dehydrated and acidotic on admission, therefore, the count is elevated. The determination may have been only 8 or 9 Gm. if this child was hydrated. There was no mention made of dehydration. The blood nitrogen nonprotein was a high normal, the protein split half and half, a 1/1 ratio; this is a little low. The cholesterol was normal. The test for syphilis was negative, tuberculin tests 1 and 2 were negative. Histoplasmin skin test and toxoplasmin test were negative.

This child was admitted into the John Gaston Hospital in January and died one month and four days later after having been studied thoroughly by the staff. I wish I had been in on it, so that I could have the diagnosis for you today. The child was treated with penicillin, aureomycin sulfonamides to no avail. She was put on cortisone when she went into shock and cyanosis. I believe this means the entire staff, including residents and visiting staff was rather con-



fused and certainly stumped and unable to make an accurate diagnosis on this infant. Occasionally a diagnosis is impossible. Occasionally it can be exceedingly embarrassing both to yourself and others when it has been made. I believe it means this is a difficult case. One of the tests which probably was run and was slow being reported is the test which has been so aptly left off our page. Let's consider a few of the diagnostic possibilities from the standpoint of the differential diagnosis.

Any baby that comes into the hospital with a chronic cold of three weeks duration is a good candidate for the diagnosis of mucoviscidosis. Mucoviscidosis, fibrocystic disease of the pancreas, coeliac syndrome of the malignant type—all names of the same entity—is a disease, a dysfunction of the mucus-secreting glands of the body. It is primarily concerned with pancreatic disability, nutritional disturbances, vitamin A and other vitamin deficiencies, abnormalities of metabolism and infections of the respiratory system. There are certain features which would make one believe that this were not the case. There had been no vomiting, diarrhea or other dysfunctions of the gastrointestinal tract. There was no evidence here of a nutritionally abnormal child except inadequate weight gain. There was no family history of the disease. With ten siblings it would be rare indeed for there to have been no previous case. There was no evidence of the disease on the chest X-ray or on the flat plate of the abdomen. Certainly a child as sick as this would have shown some radiological evidence.

Before I go to my next possible diagnosis I would like to explain that these are not in order of preference. In fact a few minutes ago Dr. Kyle was feeling me out about the diagnosis, but I told him that I had not as yet completely decided which to put first. I have a few questions I wish to put to him first.

This child had an upper respiratory infection and an abscessed ear which could have been due to most any organism. An upper respiratory infection in a little baby could be due to influenza, could have been due to a *pseudomonas jaegeri* which is one of the organisms which would be most resistant to the type treatment that this child

had. Any one of the usual organisms could have produced a septicemia and an enlarged spleen, an enlarged liver and also enlargement of the left inguinal node. All these things could be produced by a septicemia following an upper respiratory tract in a small child. Even if this child had no fever for 2 weeks it would still not rule out a septicemia during this time. There are a few things against septicemia. The blood cultures were negative. If these blood cultures were done properly and run properly and stained properly and were repeatedly negative for a pathogenic bacteria we should be able to rule out a septicemia. The last time I stood up here the diagnosis was septicemia. I got close to it but I missed the possibilities of the organism, missed it badly, because on the protocol there was no mention of the existence of necrotizing ulcers, which were all over this baby's body. These of course made a pseudomonas infection the obvious diagnosis. Was there any rash on this baby, Dr. Kyle? There was described in the progress note, a macular rash noted for the first time three days before death. This rash is becoming more generalized. I don't know how long it had been there, but not very long. The next possibility I think we should consider, and an awfully good one, is typhoid fever. Typhoid fever in a small child is fairly unusual. Did you know that typhoid fever has been reported as a congenital disease? There have been children born with typhoid fever in an active stage. There have been children born with high agglutinations at birth, when they actually did not have the disease at that time. The mothers had recently had typhoid. Others, whose mothers were in the septicemic stage, had typhoid fever in an acute stage when born. Most of these babies of course have died. There has been one case of acquired typhoid fever reported in Memphis in a 5 day old baby. This is the youngest case on record. The baby was from Arkansas, and was admitted into the St. Joseph Hospital with a high and spiking fever and extreme prostration, on the fifth day of life. The child got sick on the fourth day of life. By the eighth day it was diagnosed as typhoid fever. By the ninth day the baby was dead. The people did not boil water for



him. They had a pump across the road. We went to Arkansas and talked to the mother, the mid-wife, the husband, the aunt who lived in the house and the other children. We did a culture and agglutination test on everybody concerned with the baby. We cultured the pump across the street, and we cultured the milk bucket. We never were able to track down the origin of the typhoid fever. We had every confirmation of this diagnosis before that child's death. The child was put on chloromycetin 24 hours before death. At autopsy the diagnosis was confirmed. Typhoid fever can occur at any age. It is a disease of filth, of contamination of the food and water supply. This setup was perfect for it. The enlarged spleen, the questionably enlarged liver and the enlargement of lymph nodes. I don't know how large this lymph node was. Generalized node enlargement often accompanies a generalized disease. The child had no diarrhea. Diarrhea is usual, but not necessary to the diagnosis. There are a number of features that should rule typhoid out completely.

A child sick of typhoid for 3 weeks would certainly have produced culture and agglutination evidence of that condition. The agglutination titer should have been high. The culture of the stool should have been positive. At 3 weeks the urine and blood cultures would probably have been negative. If it were not for the above negative findings plus the length of the illness, typhoid fever would be high on my list of probabilities.

Next, I would like to talk about histoplasmosis because certainly of all the diseases we should consider today, histoplasmosis, should be one of the top ones. From all of the cultures that were done, the examination of the lymph node and bone marrow, the only statement made was, that they were negative for pathogenic bacteria. This, I presume, could lead me to believe that cultures were not taken and the examination was not made for histoplasmosis. Histoplasmosis is a disease due to a small fungus-type organism which is found in the soil. I read in the paper the other day that following tornados histoplasmosis increases in incidence due to stirring up of dust in the

air. Histoplasmosis is a fairly common disease in this area in the South.

There are a few features in this protocol which would rule out histoplasmosis. One is the normal chest X-ray. Don't always take a chest X-ray at face value. When a radiologist says this chest is normal, he doesn't mean necessarily that there is nothing pathologic in it. I've had one case that died from tuberculosis myocarditis, who had active tuberculosis in the right upper lobe which was never seen radiographically. I had a case of tuberculosis meningitis which died after treatment of two years. X-rays of the chest had all been completely normal on report and when I looked at them I read them negative too and yet on autopsy he had an active lung lesion. So, a negative chest X-ray does not necessarily rule out pathologic changes in the respiratory tract. This child had a chronic severe hacking cough. This could be due to an enlarged gland at the hilar region pressing upon the trachea, or a bronchus. Histoplasmosis most certainly should be considered high as the possible diagnosis of this case.

Then, I should mention cat-scratch fever just because of the enlarged lymph node and the fever. Nothing else fits into this disease. I do not consider it seriously. Then there is a rare disease called cytomegalic inclusion disease which has inclusion bodies in salivary glands and produces a state somewhat like this. I do not take it seriously.

Porphyruria would be another possibility that we would have to consider because it was stated that the urine was darker as the fever began to rise. During the hospitalization there is no mention made again of the urine, and no urinalysis was ever reported on this protocol. We should consider brucellosis. Brucellosis is a disease derived from milk, however, I do not believe that this is brucellosis. And then of course you always think of some form of malignancy, so let's think of leukemia. There was nothing in this protocol to suggest leukemia. No mention was made of the platelet count. The hemoglobin is too high, 11 gms. and no abnormal leucocytes are reported. There were no hemorrhagic lesions found in this child. There is the possibility of a lymphosarcoma. The lymph node which was removed

on the bone marrow biopsy should have conclusively diagnosed a leukemia or a lymphosarcoma or a Hodgkin's disease. So I feel we can rule out a lymphosarcoma and also Hodgkin's disease. I believe on the malignancy angle we are pretty clear here because enough work was done on bone marrow, peripheral blood, and lymph node biopsy to exclude them. Tuberculosis is a possibility in spite of the fact that we have negative tuberculin skin test. In the child who died of tuberculous myocarditis and tuberculosis hepatitis there were 5 negative tuberculin tests. Negative all the way from the time I first saw him, until his death. It was only on autopsy that the diagnosis was made.

This child's illness existed over a period of months. She did well at first and then did poorly. The weight gain was slow and she developed a rash over the body.

Is there any rule that I must choose in order of preference?

DR. WARREN KYLE: Would you like to examine the X-rays?

DR. WILLIAM R. MITCHUM: There are two films up here on the view boxes. The first film was made 3 days after admission for chest examination. (Fig. 1-A.) The heart is of normal size. The hilar shadows are slightly prominent. There is no signi-

cant lymph node enlargement. One would be inclined to call the lung fields free of disease. The liver is certainly enlarged and the spleen is markedly enlarged and seven days later examination was made of the abdomen, but the lung fields also are shown fairly well. (Fig. 1-B.) Now we have a definite reticular type infiltrate radiating from the hilus of the right lung and probably the left lung as well, and there is an interstitial infiltrate in the right upper lung fields. There appears to be the possibility of lymph nodes present in the hilar region. Again we note the enlarged liver and spleen.

DR. LOVEJOY: First, histoplasmosis; second, tuberculosis.

DR. KYLE: Thank you, Dr. Lovejoy, for the excellent discussion. Is there any discussion from the floor? Your diagnoses were extremely well diversified. I think Brucellosis led the list, perhaps. Miliary tuberculosis, histoplasmosis, typhoid, brain abscess, viral encephalitis, tuberculosis meningitis, leukemia and one safe individual put down fever of unknown origin. If there is no further discussion we will turn the program over to Dr. Gilmer.

DR. W. S. GILMER, JR.: Our diagnosis was disseminated histoplasmosis with involvement of the liver, adrenals, pancreas, kidneys, pericardium and in all probability,



FIG. 1-A



FIG. 1-B



the lungs, as I will discuss more in detail in a moment. At the time of autopsy the child was somewhat emaciated and dehydrated in contrast to the description given in the protocol, but then an interval of somewhat more than a month elapsed between the time of original examination and the time of death, which accounts for this discrepancy. The heart was not remarkable and was exactly of normal weight. The lungs were extremely heavy and congested, the right weighing 80 gms. where the normal would have been 37 gms., the left 100 gms. in contrast with a normal expected weight of 33 gms. They were quite firm and relatively non-crepitant throughout. The tracheo-bronchial and mediastinal lymph nodes were somewhat enlarged and soft with a prominent follicular pattern. The spleen weighed 45 gms. in contrast to an expected weight of 16 gms. It was quite firm, with a smooth capsule and the Malpighian corpuscles were prominent. The liver weighed 330 gms. with an expected weight of 160 gms. Here and there, throughout the liver, there were slightly depressed hemorrhagic areas. No definite lobular distribution could be made out. The remainder of the viscera were not remarkable in gross.

We were able to demonstrate the organisms in post mortem cultures of the heart-blood and the lungs. It is of interest that we were unable to demonstrate microscopically the organisms in any tissue other than the adrenals where an enormous number was seen (Fig. 2-A). In both adrenals there were large granulomas with relatively little necrosis with a large number of giant cells

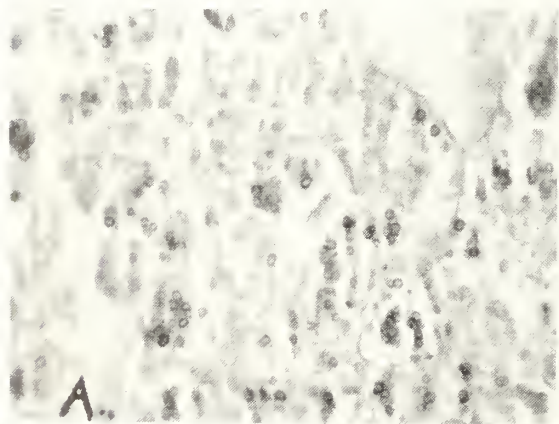


FIG. 2-A

and similar lesions were found in the liver in the areas described grossly as appearing hemorrhagic, although there was less of true granuloma formation here and the process was more of a diffuse necrosis. All the lymph nodes were diffusely enlarged and showed a marked hyperplasia of the reticulum cells. Some cells interestingly enough closely resemble the Reed-Sternberg cells seen in Hodgkin's disease.

Perhaps the most striking finding in this case was in the lungs where there was a classical picture of the so-called hyaline membrane disease. (Fig. 2-B.) Now this

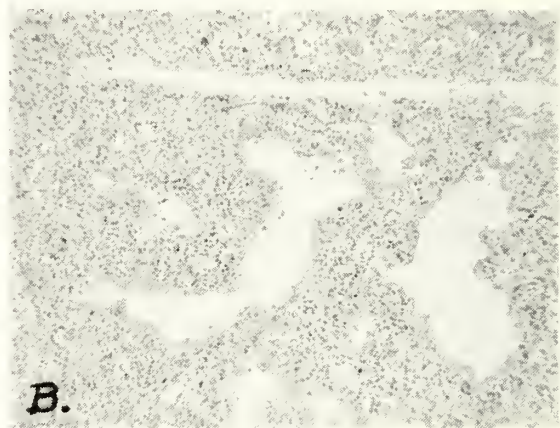


FIG. 2-B

is ordinarily a condition we think of as being confined to the newborn infant and certainly hyaline membranes in the newborn are associated with a particular syndrome which I hope Dr. Lovejoy will discuss for us. However the illustration shows clearly the diffuse atelectasis which was present with the hyaline material being closely applied to the wall of the alveolar ducts and atria. It is significant here, and important, to realize that this material is not in the alveoli but in the portion of the respiratory tract immediately proximal to the alveoli so that the true pathology here is a diffuse atelectasis apparently as a result of this material being deposited in the lower respiratory tract immediately proximal to the alveoli.

There were no true granulomas or other lesions in the lungs which were felt to be specific for, or even suggestive of histoplasmosis but the fact that we were able to isolate the organism from the lungs indicated to us that the histoplasmosis was responsi-



ble for the formation of these hyaline membranes.

Of course we will never be able to demonstrate to our satisfaction the portal of entry here, but I think all available evidence indicates that this is an airborne infection as a general rule. There is evidence to indicate that ingestion of contaminated materials may be responsible and that some cases of histoplasmosis may be due to food or water contamination.

DR. KYLE: Thank you, Dr. Gilmer. The laboratory test that was made was a culture of bone marrow and the result came in two or three days before death. Therapy was started with Ethyl vannilate. Dr. Lovejoy, would you comment on the use of this drug?

DR. LOVEJOY: Ethyl vannilate is a drug which has been in use the last few years particularly by Dr. Christie of Vanderbilt University. However, as far as I can read, Ethyl vannilate has been disappointing. Death has always resulted in those cases treated with this drug. There is another drug, Mycostatin, which recently has come out for histoplasmosis. This drug is available in a half million unit hard-coated tablet and in an intravenous preparation. The oral drug has been used successfully in gastrointestinal monilia infections. Those cases of moliniasis following penicillin or tetracycline therapy can be cleared rapidly by its use. Its use in thrush has been disappointing. I have crushed the tablets of the drug and suspended them in saline, water and glycerin and have had the mother apply this suspension to the oral cavity three or four times daily. The results have been poor.

A short time ago an intravenous preparation was made by the Squibb Company and recommended for the treatment of histoplasmosis. I have never seen it used. I understand that cortisone must be mixed and given with it to reduce the reaction to its irritating effect.

I did not mention the negative skin tests reported in our protocol. Histoplasmin skin testing is not a highly accurate diagnostic aid. False positives and false negatives are common. I would not stake my diagnosis on this test, but I would have enjoyed a positive test in this case.

There are two prevalent theories of the

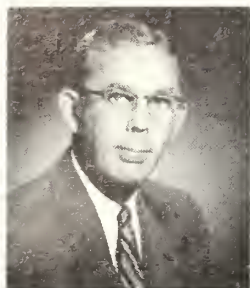
formation of the hyaline membrane in patients dying of this condition. Hyaline membrane disease occurs for the most part in newborn babies, born either prematurely or by section. It is sometimes called the "four day disease," due to its duration. Usually the baby looks well at birth. Within twelve hours cyanosis and a grunting respiration cause the nurse to call the doctor back. At this examination he finds a cyanotic child with grunting respiration. The lungs are less aerated than before and often in the midback area fine crepitant rales can be heard. One theory suggests that the aspiration of amniotic fluid at birth accounts for the origin of the membrane. Respirations cause it to dry out and solidify around the alveolar and bronchiolar walls. No stillborn or child living less than four hours has been found at necropsy to have this condition. The other theory suggests that the membrane is a transudate through the alveolar and bronchiolar walls. Certainly the occurrence of it in this case would suggest the latter origin. Dr. Gilmer, what is your opinion as to the origin of this material?

DR. GILMER: I feel it is endogenous in origin. At least Hand and I felt it so in the cases of newborn children we studied, and I think it is probably the same in this case.

DR. KYLE: Historically speaking, histoplasmosis is of special interest in Tennessee. At the Vanderbilt Medical School in the early nineteen-thirties Demonbreun was one of the first to culture the organism and to demonstrate it to be a fungus. About ten years ago, Christie and Peterson, also at Vanderbilt, initiated the work which indicated a widespread incidence of benign pulmonary histoplasmosis in the Mississippi Valley. They found large numbers of tuberculin-negative individuals with roentgenographic evidence of pulmonary calcifications, who exhibited positive histoplasmin skin tests. This work has been extended by others.

In this city at Kennedy Veterans Hospital, Dr. Sutliff has studied an excellent clinical series of adults with active benign pulmonary histoplasmosis. At the John Gaston Hospital, most of our proven cases have been in the fatal disseminated form, and the great majority of these have been in children, often infants as seen in the patient today.

## President's Letter



DR. TRABUE

The minutes of a recent meeting of the Governor's Advisory Committee on Polio will be found on page 277 of this issue of the JOURNAL. The certification, release and distribution of the Salk vaccine has been carried out, at the national level, in a most irregular and unprecedented fashion, with the result that physicians have been faced with many troublous questions. The Governor's Committee was asked to make recommendations only on the problem of distribution of the vaccine within the State and this it has done after careful consideration of the problems involved.

If and when the vaccine is released, it will be shipped by the manufacturers to wholesale druggists in various sections of the State. If the vaccine is in short supply at that time, then a planned method of distribution must be ready to be put into operation to prevent "chiseling" by druggists, doctors or patients. It has been alleged by some members of Congress that a voluntary method of distribution will not work and that, therefore, the Federal Government should purchase and distribute the drug. Even if such a plan is not Socialized Medicine, (and I think it is), it is certainly a form of governmental paternalism that should not be tolerated. Therefore, it is essential for the profession to adopt a plan for voluntary distribution that is practical and that can be policed when it is put in operation.

Involved in the problem of distribution are the facts that certain age group priorities must be adhered to; that the first release of vaccine may be sufficient for only a portion of the first priority group; that each county is entitled to its share of each release; that each druggist should have the opportunity to sell his share of the vaccine and

that no druggists should have any opportunity for monopoly; that each doctor should have the opportunity to obtain vaccine for those patients who come to him, but should not be allowed to stockpile the drug in his office, thus preventing other doctors from obtaining their fair share. All of these facts and restrictions are important to the end that every eligible patient will have the opportunity to obtain the vaccine from the druggist of his choice and have it administered by the doctor of his choice. Furthermore, it is quite important that the druggist and the doctor be protected from the pressure of those who will seek to get inoculations for individuals not in the priority age group.

It is believed that all of these factors are well taken care of in the recommended plan and it is hoped that the members of our Association will accept the inconveniences thus necessitated and will help enforce the administration of the plan, if necessary, in order to prove again that we do not need the help of the Federal Government in practicing medicine.

There are no State funds available for the purchase of vaccine for the indigent. Unless Federal funds become available, this problem must be taken care of at the County level. This should not be too much of a problem, if each local Society will concern itself and see that funds are appropriated by the County Courts or from other appropriate sources.

Considerable restraint is required to refrain from being specifically critical of many of the events of the past few months in this field. Institutional and governmental handling of this medical problem has been a fiasco with the result that the public has been misled and mistreated. Do any of the proponents of Socialized Medicine care to defend the issue at this time?

A handwritten signature in cursive script, reading "R. D. Trabue".



# THE JOURNAL

OF THE  
TENNESSEE STATE MEDICAL ASSOCIATION

Published Monthly

Devoted to the Interests of the Medical Profession of  
Tennessee

Office of Publication, 321-325 Doctors Building, Nashville,  
Tenn.

Acceptance for mailing at special rate of postage provided  
for in Section 1103, Act of October 3, 1917,  
authorized July 15, 1932.

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JULY, 1955

## EDITORIAL

### PENTOTHAL ANESTHESIA

The widespread use of Pentothal anesthesia during the past 22 years has necessitated an evaluation of this agent in the light of recent experience. A recent review of Vincent J. Collins\* presents just such an evaluation. At one time it seemed the only requirement to administer sodium thiopental was to be able to get the needle in the vein. It was not until the time of Pearl Harbor that the safety of the drug was questioned. Recently the principles set forth by Lundy, one of the pioneers in its clinical use, have been restudied.

These principles for its use deserve to be stated again and again: (1) simple operations; (2) operations of short duration (about one hour); and (3) dosage limit of 1 gram. As soon as the anesthetist deviates from these, the hazards are increased out of

proportion to the inescapable hazard normally presented by the nonconforming case.

Small doses of sodium thiopental cause a rapid fall in arterial oxygen saturation. It has been demonstrated that supplementary oxygen in high concentrations is of definite advantage, not only during maintenance of anesthesia with thiopental but during the induction period, no matter how brief this might be. Concentrations of oxygen above 40 per cent were necessary to maintain a patient under thiopental with an oxygen saturation of 90 per cent or better, and if the patient had had this anesthetic administered for two hours or longer, concentrations of 100 per cent oxygen failed to keep oxygen saturation from falling.

Some observations on blood pressure changes accompanying the administration of sodium thiopental are of significance. It is well known that the rapid administration of highly concentrated thiopental solutions produces not only sudden apnea but also causes rather marked circulatory depression with precipitous drops in blood pressure. In various groups of patients given 0.2 per cent thiopental by drip technic, taking an average of six to eight minutes to produce unconsciousness, all demonstrated a fall in blood pressure. Only in adult patients between the ages of twenty to fifty years in good condition were falls in blood pressure minimal but they still occurred, and were definitely out of all proportion to what would be expected with the assumption of the state of sleep. In older patients with hypertension drops of 80 mm. of mercury systolic were recorded.

It is considered that ultra short-acting barbiturates have a direct weakening effect on the myocardium. Sedative doses of thiopental produce a 10 per cent fall in cardiac output and the cardiac output is reduced 25 per cent with doses capable of producing first plane anesthesia.

These observations are of tremendous importance particularly when one is administering thiopental to cardiac patients and especially those with coronary artery disease. It is these latter in whom a fall in blood pressure may produce a fatal drop in coronary artery flow.

These statements do not mean that this

\*Bull. N. Y. Acad. of Med. 31, 6, June, 1955.



most useful of anesthetic agents should not be used. Rather it is a tool which should be handled properly. If used as Lundy originally suggested for simple operations of short duration with a dose limit of 1 gram to which we might add the avoidance of its use in severe cardiacs, especially those with coronary artery disease, it can even now assume its proper place in anesthesiology.

A. B. S.



## THE MEDICAL FOUNDATION

From time to time these pages have carried comments about one of the important activities of the Tennessee State Medical Association,—the Tennessee Medical Foundation and its very active Committee on Health and Medical Care. The reader is asked to turn his attention to the pages immediately following this editorial to read a statement sent to the editor by Dr. Ralph Monger, president of the Foundation's Board of Directors.

Members of the Association are urged to read this to re-acquaint themselves with the objectives of the Foundation, which they will be asked to join for an annual membership fee of ten dollars. The Commonwealth Fund aided in getting the Foundation's Committee activities underway. The membership of the Association must provide the money now to continue the valuable contribution organized medicine is making to medical care in Tennessee.

The reader may recall that this all began after the first annual Conference on Medical Care in the Bituminous Coal Mine Area sponsored by the A.M.A. to discuss the deplorable state of medical care in the bituminous coal mining areas of Pennsylvania, Virginia, West Virginia, Kentucky and Tennessee. The A.M.A. then threw this problem into the laps of the respective state medical societies. And the Tennessee State Medical Association decided to do something about it.

The JOURNAL has carried successively in one form or another the progress reports from the Foundation's Committee on Health and Medical Care. (This has been one of the most active committees related to the affairs of the State Medical Association.) After obtaining the magnanimous aid of the

Commonwealth Fund a field secretary was employed and several problems were attacked.

Order and proper medical and dental care have replaced the scandalous state of "medicine" which had prevailed for years in the Clear Fork Valley area. This is on the way now to financial solvency. As the result of advice of the Committee and officers of the Foundation, the town of Wartburg solved certain problems of medical care in professional personnel and a clinic building. Likewise, LaFollette profited by advice concerning the construction of a hospital. After surveys by the field secretary and visits by members of the Foundation's Board and of the Committee, construction is underway on a clinic building at Palmer to provide for medical care in a large area where there is marginal income and medical care is insufficient.

Other calls for aid from the laity in areas of middle and west Tennessee are on the list for future investigation and planning.

Specialists of Knoxville have been most generous in giving the time gratis of providing fifty consulting visits to the marginal income areas in east Tennessee.

For too long organized medicine has "dragged its feet" in the face of socio-economic changes which will inevitably continue and can not be wished away. For too long organized medicine has refused the constructive leadership which it alone can provide through its knowledge and understanding. As a result the vociferous "dogooders" have held the stage and with some reason have denounced organized medicine as reactionary. Organized medicine claims it has been progressive and has adopted new attitudes, but it must be admitted that certain of these adoptions have at times appeared to represent a bowing to the inevitable or a *fait de accompli* rather than actually as the result of leadership.

Be that as it may, the Tennessee State Medical Association has in *reality* assumed constructive leadership to meet certain problems as in the activities of its Medical Foundation and in its other great activities, hospitalization for the indigent, and health insurance.

Members of the Board of the Commonwealth Fund expressed amazement as we

presented our plans of the Foundation's Committees. They frankly found it difficult to believe they heard aright, that organized medicine planned anything constructive, and possibly had tongue-in-cheek as they voted the money. *Life Magazine*, *Medical Economics* and the *New York Times* as well as lesser newspapers have paid the profession of Tennessee a compliment in publicizing its forward-looking attitude.

From the third Conference on Medical Care in the Bituminous Coal Mine Area, October 23, 1954, Dr. Ralph Monger of the Foundation and Dr. Ben Overholt of the Committee could proudly bring back the following resolution passed unanimously:—

*"The Third Conference on Medical Care in the Bituminous Coal Mine Areas has heard with great interest reports from Tennessee concerning its program for bettering medical care in low income sections of its coal fields. The work done in these areas serves the entire profession as a pilot project in cooperation between organized medicine, state health department, a labor union-sponsored health program and local communities. The progress made in meeting the health problems of marginal income areas reflects credit upon the medical profession of Tennessee and its medical schools. It benefits the entire medical profession by its favorable effect on public opinion.*

*"Now therefore be it resolved by this conference that we congratulate the Tennessee Medical profession and medical schools on their accomplishments and express our sincere appreciation for the expenditure of time and effort which has gone into it."*

Though the hands of the clock are moving, your Editor believes there is still time before midnight to amalgamate by the leaders of the medical profession the use of private, state and federal funds, health insurance, and the medical and health benefits attained by labor into the provision of adequate medical care for all, which is demanded by the people. It is your Editor's sincere conviction that *adequate and proper* care can only be attained by keeping these things in the hands of those to whom many turn for advice,—the profession. In the hands of bureaucrats medical care would inevitably deteriorate.

Though our activities may appear small, remember that they have attracted attention. They might set a pattern for organized medicine in other states and even in the A.M.A. Surely it is worth a ten dollar annual membership to keep the eyes of the American medical profession on our Association and to insure success. Failure of organized medicine to accomplish anything constructive will only hasten governmental interference.

R. H. K.



## Special Item

### Tennessee Medical Foundation

#### The Problem

For a number of years the Tennessee State Medical Association has been keenly aware of the need to extend good medical care to certain rural areas. These areas suffer from a lack of physicians and dentists and facilities to carry on medical practice. Most critical are communities too small to require hospitals and where adequately staffed clinics would serve to alleviate the problem. In our observation, sound advice and consultation would go far toward the solution of local problems of medical care.

Certain communities in Tennessee are able to support good medical services and to finance, on a community basis, the capital investment to obtain suitable facilities. The fact that they have not already solved their medical care problems may be due to several reasons:

- a. The lack of a catalytic element to organize the community.
- b. Failure of the Hill-Burton program to make funds available for medical facilities in areas too small for hospitals.
- c. Physicians available to go into rural areas do not have the capital to erect adequate facilities even though the supporting revenue would offer security. In addition they are reluctant to accept isolation from the medical and social environment in which they have been trained.

#### History of the Foundation

Two years prior to the chartering of the Foundation, the public service committee of the Tennessee State Medical Association published a booklet entitled *"The Tennessee*

Ten." They pointed out that "our concept of public relations is public service."

This constructive thinking was a link in the chain of events which led to the chartering of the Foundation as a dynamic organization actively engaged in helping to carry out these objectives and policies contained in the public service manual of the State Medical Association:

*Objectives: (partial extract)*

- "C.—Informing the public through every available medium of the increasing efforts of the medical profession to extend high quality care to every area."
- "D.—Work actively with lay organizations (P-TA, health councils, civic clubs, etc.) to promote better health and living standards for all Tennesseans."

*General Policies: (partial extract)*

- "2.—In working with lay organizations, follow up the meetings and programs with a check-up system to see that plans for progress do not die with the resolution in which they were born."
- "3.—See that our public service program carries its humanitarian intent to all the people and that it is never propaganda, but always performance."

Concerted effort to find a solution to rural health problems necessitated the establishment of a permanent organization. For this reason the Tennessee Medical Foundation was chartered on July 10, 1952, as a non-profit institution for the purpose of extending medical knowledge, advancing medical science, elevating the standard of medical education, and the prevention and care of disease.

The incorporators were:

- Ralph H. Monger, M.D., Past President, Tennessee State Medical Association, Knoxville
- Ernest Kelly, M.D., Past President, Tennessee State Medical Association, Memphis
- A. M. Patterson, M.D., Past President, Tennessee State Medical Association, Chattanooga
- F. L. Roberts, M.D., Assistant Dean, University of Tennessee Medical School, Memphis
- Daugh W. Smith, M.D., Past President, Tennessee State Medical Association, Nashville
- John B. Youmans, M.D., Dean, Vanderbilt University Medical School, Nashville

The existence of the Foundation demonstrates the acceptance of the fundamental philosophy that organized medicine can and should assume an active role in the medical affairs of local communities and shall stand in a position to assist and insure the provision of good medical care to the people of Tennessee.

On February 6, 1953, the Board of Directors of the Foundation appointed a Committee on Health and Medical Care to "study and develop ways and means for solving medical care problems in marginal areas in Tennessee." The Committee is composed of:

- B. M. Overholt, M.D., Chairman, Knoxville
- J. S. Hall, M.D., Clinton
- R. H. Hutcheson, M.D., Nashville
- R. H. Kampmeier, M.D., Nashville
- Ernest Kelly, M.D., Memphis
- Cecil Newell, M.D., Chattanooga
- Daugh W. Smith, M.D., Nashville
- Harrison Shull, M.D., Nashville

### The Plan of Operation

We have learned that communities are not only willing but asking for help and we have embarked on a program to achieve the following:

1. Visit the community and discuss the problem with all interested parties. To investigate the resources and agencies that can be brought to bear on the problem. With data on hand, advise and assist in local planning for an appropriate solution. There are numerous interested agencies both local and at large that can be coordinated to bear on each local problem. We are committed to the belief that cooperation of these agencies can immeasurably aid the development of community responsibility and insure continuity of service.

2. Assist in recruitment of physicians to fill the needs of the community. To provide for such physicians a sponsorship by organized medicine with channels of contact to the teaching hospitals and universities through integration of rural assignments of general physician residents.

3. To sponsor a system of specialist consultation services to develop the key position of the general physicians in relation to the fractional contribution of the specialist. The general physician, in this respect,



should be the captain of a team of medical services available to aid the patient.

4. To integrate the contribution of State Public Health Services and voluntary agencies to the health of the communities through the family physician and to develop the concept of rehabilitation of the individual as an objective of the practice of medicine.

5. To extend the organized program of postgraduate training to the rural area through cooperation of the universities and available medical talent in the vicinities of rural services and to encourage and assist the rural general physician to participate in special training.

The work is not conceived as the responsibility of a small group or element but draws freely upon the universities, public health agencies, and individual members of the Tennessee State Medical Association for service in the program. A full-time field secretary has been employed and an office established in Knoxville.

After considerable discussion it was decided to adopt the following policy recommendations to give further direction to the program:

1. That local prepaid plans be established where appropriate in substandard areas.

2. That the Tennessee State Medical Association develop a comprehensive voluntary prepayment program as a part of the Tennessee Plan at the earliest possible moment.

3. That both labor and management be invited to participate in the evolution of such prepayment plans for industry as will resolve their problems of medical care.

4. That medical schools, by assuring resumption of contacts to provide continuation of training toward Board status, select and persuade young physicians to staff marginal area clinics for reasonable periods.

5. That such medical centers include a dentist and at least a public health nurse, if possible.

6. That, as a basic policy, the plan of establishing a general practice facility of health centers in rural areas shall be community-sponsored and non-profit under the direction of a board of local citizens. That the Health and Medical Care Committee of the Tennessee Medical Foundation shall be responsible to the community board for the

quality of medical care rendered in these institutions and shall take such steps as may be deemed necessary to advise, counsel and guide the quality of medical care to be rendered in these facilities—by agreement with the community board.

If organized medicine has been cautious in evolving problems for medical care it should be recognized that there are enormous complexities to contend with, that great burdens must be borne by busy physicians and that an essential understanding of the problem and the need has not been universal either among the doctors or the people. A solution to problems encountered in the field of medical care necessitates sustained and determined effort. Constructive planning can be accomplished through the combined efforts of community representatives including labor, management, and physicians concerned in local or regional areas for development of medical programs acceptable to everyone.

#### Projected Foundation Goals

We would be remiss if we left the impression that we have found all the answers to problems involved in the provision of good medical care in the rural areas of our State. In all modesty we recognize that we have made only a small beginning. Problems still remain which will not be eliminated in our day. It is our continuing responsibility to marshal all available forces and concentrate them on the solution to problems that have been identified.

These problems are of immediate concern to the Tennessee Medical Foundation:

1. More physicians, dentists, and nurses must be trained and encouraged to consider practice in rural communities.

2. Health education programs should be extended to help people recognize, accept, and utilize good medical care.

3. Full exploration should be made of the feasibility of a prepaid surgical-medical plan for substandard areas.

4. A determination must be made of the nature and extent of the Foundation's supervision of "target" areas.

5. Plans must be formulated for the extension of the Foundation's program to other areas of Tennessee.

## DEATHS

**Dr. Charles Lee Frost**, 72, Bolivar, died June 1st at his home. He had been in ill health for several months.

**Dr. Herbert J. Bolin**, 66, Knoxville, died May 12th at Fort Sanders Hospital. He was a past-president of the Knox County Medical Society.

**Dr. Edward A. Sutherland**, 90, Madison, died June 20th at Madison Sanitarium. He was founder and President emeritus of Madison College.

## PROGRAMS AND NEWS OF MEDICAL SOCIETIES

### Knoxville Academy of Medicine

On June 14th the following program was presented. Case Reports: (1) "Hematoma of Umbilical Cord," by Dr. Martin Davis. (2) "Ruptured Aneurysm of Abdominal Aorta with Successful Hemograft," by Dr. Bruce McCampbell and Dr. E. C. Pierce. These were followed by a forum by five prominent members of the Knoxville Bar Association and the subject was "What Doctors Might Like to Know About Testifying in Court."

### Lauderdale County Medical Society

Dr. David Dunavant, Memphis, was the speaker for the meeting on May 12th. Members of the Tipton County Medical Society were invited to attend.

### Warren County Medical Society

Dr. John Tudor, Nashville, was the speaker at the first regular meeting of the newly organized Society on May 16th. His paper was on "Chronic Bladder Infection in the Female."

### Consolidated Medical Assembly

The Society held its regular meeting in the New Southern Hotel on June 7. Dr. Robert Jordan, Memphis, spoke on "Growth Failure in Children" and Dr. A. H. Tuttle, Memphis, on "A Gammaglobinemia."

### Five County Medical Association

The members of the Society and the members of the Auxiliary met for dinner on May 25th in Cookeville. Dr. Charles C.

Trabue IV, of Nashville, President of Tennessee State Medical Association, was the guest speaker.

### Chattanooga-Hamilton County Medical Society

The Society held its annual outing and barbecue on May 19th at the Chattanooga Rod and Gun Club. Sporting events were held and dinner was served thereafter.

### Roane County Medical Society

At its meeting on May 24, the program consisted of "A Conference on Fractures." Dr. John J. Killeffer of Chattanooga and President of the Tennessee Orthopedic Society was the speaker; the Moderator was Dr. Paul Spray. Members were invited to bring X-ray films of treated fractures for discussion.

### Nashville Academy of Medicine and Davidson County Medical Society

The Society met for dinner at Vanderbilt University Hospital on June 14th. Dr. Charles C. Trabue IV, President of TSMA, awarded 50-Year Pins to physicians who have been in practice for fifty or more years. Dr. Randolph Batson, presented a paper on "Recent Information on the Salk Vaccine" and Dr. Louis Rosenfeld spoke on the subject of "Cancer of the Mouth and Neck."

### Memphis-Shelby County Medical Society

The Society held its regular session on May 3. The program consisted of the following: Diagnosis Today—Part One "Shoulder-Arm Pain" by Dr. L. W. Milford; "Liver Disease" by Dr. N. W. Rossett; "Supraclavicular Biopsy" by Dr. E. F. Skinner and Dr. John Hall. Dr. Duane Carr and Dr. Merlin Trumbull discussed the papers.

## NATIONAL NEWS

### Senate Passes Doctor Draft

By voice vote, the Senate on June 16th passed a two-year extension of the doctor-draft act which expired June 30th, 1955. It was approved as an amendment to the regular draft extension, a

maneuver that will assure fast consideration on the floor of the House, since it bypasses the House version which has been tied up in the rules committee.

A Joint Congressional Conference Committee agreed on compromised legislation to extend the regular draft four years and the doctor draft two years.

The Conference Group also voted to lower the age in which doctors can be drafted from 50 to 45.

### Medical Education Bill

For the first time in many years, there is a strong possibility that Congress will enact legislation providing federal grants to medical schools. Unlike most bills of the past, which would have given the schools money for salaries and other operating costs, the bill getting most attention now would give money only for construction and equipment.

Action first came in the Health Subcommittee of the Senate Labor and Welfare Committee. Senator Lister Hill (D., Ala.), chairman of the subcommittee as well as the committee, is the principal sponsor of the bill.

Under the education bill the federal government would grant a total of \$250 million to medical schools at the rate of \$50 million a year for five years. No school could receive more than \$3 million. New schools would receive 50% of construction and equipment costs (up to \$3 million limit), but existing schools would receive only one-third, unless they agreed to increase freshman enrollment by at least 5 per cent. If they wished, schools could set aside 20% of the federal grant into a permanent endowment fund, with earnings to be used for maintaining the building and equipment.

Nearly a score of medical school deans appeared before the Hill subcommittee to urge approval of the bill. Also supporting it were the American Medical Association and the American Dental Association, the latter on condition that dental schools also be included. There were no opposition witnesses before the Hill subcommittee.

The AMA's witnesses were Drs. F. J. L. Blasingame, a Trustee, and Walter S. Wiggins, associate secretary of the Council on Medical Education and Hospitals. Dr. Blasingame reviewed efforts of the Association since its founding to improve medical education. He cited evidence to show that medical training in this country now is the best in the world, and that the supply of physicians is increasing at a faster pace than the population.

Dr. Wiggins urged the subcommittee to make two changes. He asked that the financial inducement offered for increased enrollment be dropped, as it might cause some schools to take in more students than they could train properly, a fear that was reflected also in the testimony of some of the medical school deans. He also said the AMA recommended that the law requires that six members of the Council on Medical Education be "leading medical authorities."

In the House, the Interstate and Foreign Commerce Committee, facing a heavy schedule of hearings on other bills, was slow to take up the medical education bill. But there too, its prospects are good, particularly as the bill is sponsored by Chairman Percy Priest (D., Tenn.), whose role in medical bills compares with that of Hill in the Senate.

### Other Bills

Still undecided was the fate of a Defense Department's bill for medical and dental scholarships. Scholarships would cover subsistence as well as all school expenses. A student receiving aid for a year or less would have to serve on active duty for an extra year; if the scholarship were for more than a year, he would have to spend three extra years on active duty.

At this writing Congress continues to show no particular interest in reinsurance of medical insurance plans, a bill that the administration considers important. Nor have hearings been scheduled as yet on the No. 2 administration bill, that providing federal guarantee for mortgages on such health facilities as hospitals and clinics.

## MEDICAL NEWS IN TENNESSEE

### Tennessee Heart Association

The Tennessee Heart Association held its second annual meeting at the Andrew Jackson Hotel in Nashville on June 24th with Dr. B. F. Byrd, President, presiding. Among other subjects presented were: A Rheumatic Fever Panel—The Cardiac and His Work and a Public Relations Program which was entitled, "Telling the Heart Story Effectively."

### Health Group to Attack Venereal Disease in Chattanooga

Venereal disease has again been attacked by Dr. Paul M. Golley, Director of the Health Department in Chattanooga and Hamilton County. Five teams went into the downtown section of Chattanooga to take street corner blood tests. Dr. Golley believes that venereal diseases are on the increase in Hamilton County. The five teams of trained health workers also visited heavily populated sections of the County during June for the taking of blood tests.

### Conference on Management of Mass Casualties

A one-day conference on management of mass casualties was given in Nashville by



the office of the Surgeon General, Department of the Army, in cooperation with Vanderbilt University School of Medicine, on April 8th. The primary purpose of the conference was designed to acquaint doctors, nurses and medical students in the greater Nashville area with medical problems resulting from any major emergency. The presentation marked the third time the program has been given before the public in this country.

### University of Tennessee College of Medicine

Dr. Robert V. Brown, of the Department of Pharmacology, has resigned, to join the staff of the Pharmacology Branch of the Army Chemical Center in Maryland.



A total of 247 physicians from 14 states attended 12 postgraduate courses offered by the College of Medicine during the past fiscal year. Forty-four per cent of the physicians, or a total of 109, were from Tennessee. The remainder came from Mississippi, Arkansas, Alabama, Kentucky, Missouri, Texas, Louisiana, Illinois, Ohio, Georgia, Florida, Michigan and California. Each course was limited to 20 physicians.



Dr. Samuel L. Raines, of the Department of Urological Surgery, has been awarded a \$4,000 research grant by Eaton Laboratories of Norwich, N. Y., for the evaluation of Furadantin.

### Upper Cumberland Medical Society

The sixty-first annual meeting was held at Red Boiling Springs June 28-29 under the presidency of Dr. Henry S. Harris of Bowling Green, Kentucky. The following program was presented: "Basic Electrocardiogram Patterns," Howard Foreman, M.D., Nashville; "Difficulties in Large Bowel Diagnosis by X-Ray," John H. Beveridge, M.D., Nashville; "Posterior Fracture and Dislocation of the Shoulder 'Cause,' Effect and Treatment," Don Eyler, M.D., Nashville; "Uses and Abuses of Cortisone," Morse Kochtitzky, M.D., Nashville; "Some Newer Concepts of Rheumatic Fever," Thayer Wilson, M.D., Carthage; "Chronic Female Bladder," John M. Tudor, M.D., Nashville; "Complica-

tions of Antibiotic Therapy," Fay B. Murphy, Jr., M.D., Chattanooga; "Sheehan's Disease, With a Case Report," Alfred M. Taylor, M.D., Crossville; "Retrolental Fibroplasia in Premature Infants," W. M. Brown, M.D., Livingston; "Diagnosis and Closure of Interatrial Septal Defect in 25 Year White Female," H. R. Anderson, M.D., Nashville; "Surgical Treatment of Varicose Veins," Clifton Follis, M.D., Glasgow, Ky.; "A Doctor's Diagnosis of A Case," H. S. Shoulders, M.D., Nashville; "Diagnosis and Neurosurgical Management of the Extruded Lumbar Disc," Arnold M. Meirowsky, M.D., Nashville; "Uncommon Gastrointestinal Tract Lesions of Surgical Interest," J. L. Herrington, Jr., M.D., Nashville; "Management of A Case of Dysmenorrhea," Denton D. Norris, M.D., Livingston; "Pancreatitis," Jack L. Clark, M.D., Cookeville; Presidential Address: "Rare Congenital Anomaly of the Penis," Henry S. Harris, M.D., Bowling Green, Ky.; "Intravenous Therapy in Children," Robert McKinley, M.D., Glasgow, Ky.; "A Practical Approach to the Patient With a Vertebral Fracture," Joseph Burd, M.D., Nashville; "Atresia of the Alimentary Tract," George W. Holcomb, Jr., Nashville; "Intestinal Obstruction in Infants and Children," J. L. Farrington, M.D., Nashville; and "Endometriosis—Study of 100 Cases," C. S. McMurray, M.D., Nashville.

### American College of Surgeons

The Annual Meeting of the Tennessee Regional Trauma Committee met in Chattanooga, April 11, 1955. The following members were present:

Dr. Moore Moore, Jr., Chairman, Dr. Robert C. Robertson, Dr. Henry T. Kirby-Smith, Dr. C. Sanford Carlson, Dr. William H. Sheridan, Dr. Dana Nance, Dr. Byron O. Garner, Dr. Marcus J. Stewart, Secretary-Treasurer.

Dr. Baker Hubbard, as Chairman of the committee for proposed Ambulance Legislation, submitted the following report:

A discussion of the ambulance problem from various members revealed that certain states have solved this problem in their own particular manner. For example, it was reported that in the State of New Jersey that the police force in the various communities handled the splinting and emergency care before the ambulance is allowed

to move the individual. The consensus of our Committee, however, was that this would probably work in metropolitan areas but would not be too practical in the smaller communities and for the State at Large. It was suggested that this possibility of using the State Police Force be investigated on a state level and a committee was appointed by the Chairman to investigate the possibility of organizing the State Highway Patrolmen as a unit to be trained in first aid, splinting care, etc. Further discussion revealed that certain cities and metropolitan areas about the nation solved their problem by offering training courses in first aid, splinting and emergency care; and, then issue a badge or certificate on a local basis, as approved by the Regional Trauma Committee, to the individual completing this course, which may be used on his person or in his ambulance as an official stamp of approval as far as the Trauma Committee is concerned. It is felt that a similar plan of action would be beneficial in the State of Tennessee. This is being investigated by the Executive Committee.

#### Other items discussed:

The *training of surgical nurses* was discussed at great length. It was revealed by members of the Committee, reporting individually, that a great number of the nurses and assistants in various operating rooms about the State of Tennessee are not graduate or registered nurses, but intelligent young women who have been trained in a short period of time to act as circulating nurses or scrub nurses in the various operating rooms. It is obvious that there are not enough nurses trained annually to fulfill the demands and requirements in the various surgical clinics of the country at large. It was pointed out that this was an old problem that has been attacked by many groups and committees but it is yet unsolved.

The Regional Trauma Committee, by unanimous vote, went on record as disapproving the *sale of fireworks* in the State of Tennessee. It is obvious that each year there are many useless accidents and injuries as a result of the careless use of explosives being handled by untrained personnel, particularly children. Further, the Committee agreed to submit a recommendation to the State Medical Society suggesting that the Society introduce a bill along these lines into the next session of the State Legislature.

#### Minutes of Meeting of the Advisory Committee to the Governor on Salk Poliomyelitis Vaccine Distribution

The Committee met in Nashville on June 30, 1955. The following members of the Committee were present: Dr. R. H. Hutcheson, Chairman; Dr. Charles C. Trabue, Dr. Oren A. Oliver, Dr. Clyde Crosswell, Dr. Sam O. Jones, Mrs. Ralph Frost, and Mr. Daughn

O. Hundley. Mr. Robert Walker, Secretary-Treasurer of the State Board of Pharmacy, and Dr. Cecil B. Tucker, Director of the Division of Preventable Diseases, were also present.

Dr. Hutcheson read several letters and reports to the group. It was discussed at length the procedure for securing the vaccine and it was recommended that it should definitely be on a prescription basis, and an accurate record kept by both the doctor and druggist of the name, age and address of the patient and date.

The group discussed the handling of the vaccine for the indigent. Since there are no federal or state funds to take care of this it will be up to the counties or other local agencies to furnish this. It was decided that each county should be queried concerning what per cent of their allotment would be purchased for the indigents in their area.

The question of issuing a prescription for one dose or a series of three shots was brought up, and also the question of the 6-months expiration date of the vaccine.

After the discussions the following motions were made:

1. It was moved by Dr. Trabue, seconded by Dr. Jones and passed that:

It be suggested to the Governor that he request the State Department of Public Health to query each county in the state to determine what per cent of the vaccine allocated to that county out of Tennessee's allotment will be purchased by the county or other public agency for the vaccination of indigent children in the area.

2. It was moved by Dr. Oliver and seconded by Dr. Crosswell and carried that:

Assuming that the manufacturer will distribute the remainder of the vaccine through his normal wholesale outlets, the distribution from wholesalers to retailers shall be according to the following plan:

(a) The State Department of Public Health will from time to time notify each County Board of Health or its designated agent of the amount of vaccine allocated to that county at that time (this allocation will be made on the basis of a priority age group formula).

(b) The retail druggist shall from time to time secure from the County Board of Health or its designated agent an authorization for purchase of vaccine based on an equitable distribution for all druggists of that county.

(c) The retail druggist must send with his order to the wholesaler a copy of the authorization for purchase.

(d) The wholesaler must keep on file these authorizations as evidence of sale.

3. It was moved by Dr. Trabue, seconded by Mrs. Frost and carried that:

The retail druggist fill and distribute the vaccine only on a prescription by a physician which shows the date, name, age, and address of the person to be vaccinated.

4. It was moved by Dr. Croswell, seconded by Dr. Jones and carried that:

In the administration of the vaccine each physician shall keep an accurate record of the name, age of the child, the date of administration, the site of inoculation, the lot number of the vaccine and the name of the manufacturer. This recommendation is made as a parallel suggestion with the approval of the American Medical Association.

5. It was moved by Mr. Hundley, seconded by Mrs. Frost, and carried that:

It is the strong recommendation of the committee that during the period of short supply that no manufacturer shall ship vaccine into Tennessee except to the duly registered wholesale distributor.

Signed: R. H. HUTCHESON, M.D., *Chairman*

Meeting adjourned at 1:15 p.m.

## PERSONAL NEWS

**Dr. Eugene C. Crafton**, Trenton, has been elected president of the medical staff of St. Mary's Hospital in Humboldt. **Dr. Harold G. Barker**, Humboldt, will serve as Vice-President and **Dr. James D. Rozzell**, Humboldt, will serve as secretary.

**Dr. Charles Robinson**, Carthage, has announced the opening of his office for the practice of medicine at Eagleville.

**Dr. James L. Hamilton**, Chattanooga, has resigned as superintendent of Pine Breeze Sanatorium to become Medical Director of the Tuberculosis Hospital at Gadsden, Alabama.

**Dr. Franklin Bogart**, Chattanooga, recently addressed the Chattanooga Tumor Clinic.

**Dr. O. S. Luton** has purchased a Clinic in Houston County.

**Dr. Samuel L. Raines**, Memphis, was recently elected President of the American Urological Association, at its annual meeting in Los Angeles.

**Dr. Sam Hay**, Murfreesboro, has been elected President of the Middle Tennessee Medical Association. **Dr. Frank G. Witherspoon**, Nashville, Vice-President, and **Dr. Oscar Carter**, Nashville, Secretary and Treasurer.

**Dr. George E. Wilson**, Rockwood, has returned to his office for the practice of medicine.

**Dr. R. R. Crowe**, Nashville, has announced that the Tuberculosis Hospital at Nashville has been

fully accredited by the Joint Commission on Accreditation of Hospitals.

**Dr. Grace Moulder**, Shelbyville, has been elected a member of the Board of Directors of the Middle Tennessee Heart Association.

**Dr. Laurence A. Grossman** has been named President-Elect of the Middle Tennessee Heart Association. **Dr. Tremaine Billings** was elected Secretary-Treasurer and **Dr. Rollin A. Daniel, Jr.**, succeeded to the Presidency. All are from Nashville.

**Dr. Randolph Batson**, Nashville, has been named to a Polio Instruction Team to Puerto Rico.

**Dr. David H. Waterman**, Knoxville, was a recent speaker before the National Tuberculosis Association at Milwaukee.

**Dr. Troy Walker** has announced the opening of his office for the practice of medicine in Clarksville.

**Dr. F. Tremaine Billings**, Nashville, was a recent speaker before the Tennessee Dietetic Association.

The Executive Committee of the Henry County General Hospital has named **Dr. W. G. Rhea** and **Dr. I. H. Jones** to work with other officers to obtain accreditation of the hospital.

**Dr. John L. Wood**, Memphis, has been awarded an Honorary degree of doctor of science by the Board of Trustees of Blackburn College.

**Dr. Carl C. Gardner, Jr.**, Columbia, has been named a member of the Board of Directors of the Middle Tennessee Heart Association.

**Dr. Roy J. Fischer** has joined the staff of the V. A. Hospital in Murfreesboro.

**Dr. Charles C. Trabue IV**, Nashville, President of TSMA, awarded "Pins signifying 50 years in the medical profession" to the following Nashville Physicians: **Dr. Clinton Brush**, **Dr. W. Bate Dozier**, **Dr. Duncan Eve**, **Dr. Robert Grizzard**, **Dr. J. P. Keller**, **Dr. J. H. King**, **Dr. P. G. Morrissey, Sr.**, **Dr. T. G. Pollard**, **Dr. W. E. Reynolds**, **Dr. E. L. Roberts**, **Dr. S. R. Teachout** and **Dr. Fred L. Webb**.

**Dr. John L. Armstrong**, Somerville, has been elected Vice-President to the Tennessee Academy of General Practice.

**Dr. W. E. Anderson**, Dyersburg, recently spoke to the Parent-Teachers Association in Dyer County on Salk Polio Vaccine.

**Dr. J. Howard Young, Jr.**, and **Dr. Radford Smith** have announced the opening of their office for the practice of medicine in McMinnville.

**Dr. James G. Hughes**, Memphis, has been selected by the World Health Organization to conduct a study of the pediatric departments of the medical schools in Latin America.

The following Nashville doctors announce removal of their offices from former addresses to the Medical Arts Building: **Dr. Robert W. Adams**, psychiatry; **Dr. Edmund E. Benz**, surgery; **Dr. Otto Billig**, psychiatry; **Dr. F. T. Billings**, medicine; **Dr. Beverly Douglas**, plastic surgery; **Dr. Ralph M. Larsen**, surgery; **Dr. Arnold M. Meirowsky**, neurosurgery; **Dr. Bernard J. Pass**, dermatology; **Dr. Samuel S. Riven**, medicine; **Dr. Louis**



**Rosenfeld**, surgery, and **Dr. Albert Weinstein**, medicine.

**Dr. Daugh W. Smith**, proctology, and **Dr. George W. Holcomb, Jr.**, surgery, have removed their offices to 1926 Hayes Street, Nashville.

**Dr. George W. Bounds, Jr.**, has opened his office for the practice of ophthalmology in the Medical Arts Building, Nashville.

**Dr. Charles B. Smith** announces the opening of his office for the practice of psychiatry in the Medical Arts Building, Nashville.

The Acuff Clinic Association announce the association of **Dr. Freeman L. Rawson** with it for the practice of internal medicine and cardiology.

**Dr. Marvin J. Rosenblum**, Nashville, announces the opening of his office for the practice of internal medicine and gastroenterology, at 2118 West End Avenue.

## ANNOUNCEMENTS

### American Congress of Physical Medicine and Rehabilitation

The 33rd annual scientific and clinical session of the American Congress of Physical Medicine and Rehabilitation will be held August 28-September 2nd at Hotel Statler, Detroit. All sessions will be open to members of the medical profession in good standing with the AMA. Full information

may be obtained by writing to the executive secretary, American Congress of Physical Medicine and Rehabilitation, 30 North Michigan Avenue, Chicago 2, Illinois.

### American Board of Obstetrics and Gynecology

Applications for certification for the 1956 Part I Examinations are now being accepted. Candidates are urged to make such application as early as possible, and before October 1, 1955.

### Annual Assembly in Otolaryngology

The Department of Otolaryngology, University of Illinois College of Medicine, announces its Annual Assembly in Otolaryngology from September 19 through October 1, 1955. This Assembly will consist of two parts.

Part I. September 19 through September 24, 1955, will be devoted to surgical anatomy of the head and neck, fundamental principles of neck surgery and histopathology of the ear, nose and throat. This week will be under the personal direction of Maurice F. Snitman, M.D.

Part II. September 26 through October 1, 1955, will be devoted entirely to lectures and panel discussion of advancements in otolaryngology. The Chairman of this section will be Emanuel M. Skilnik, M.D. Registration is optional for one or both weeks.

## PLACEMENT SERVICE

*The placement service of The Tennessee State Medical Association is designed to assist doctors and communities to get together. Further information and contacts on both physicians and communities are available from the Public Service Department, 322 Doctors Building, Nashville 3, Tennessee.*

### Locations Wanted

A 28 year old, married physician, Protestant, graduate University of Tennessee. At present Interning. Desires General Practice, Clinic, assistant or Associate. Available August 1, 1955. LW-162

A 30 year old, married physician, Protestant, graduate St. Louis University, desires general practice in community 10,000-30,000. Clinic, assistant or associate acceptable. Desires East or Middle Tennessee. Available late Spring, 1955. LW-165

A 25 year old, Protestant, married, graduate University of Tennessee. Desires General Practice with minor surgery in small town near Knoxville. Will consider others. Available January 1, 1956. LW-167

A 33 year old, married physician, Hebrew, graduate University of Maryland, Diplomate American Board of Dermatology & Syphilology. Priority IV. Available immediately. LW-168

A 33 year old, married physician, Protestant, graduate Northwestern University, priority IV, Desires Internal medicine, clinic, assistant or associate. Available any time. LW-169

A 31 year old, married physician, Roman Catholic, graduate Georgetown University School of Medicine. Board eligible American Board of Orthopedics. Draft exempt. Desires clinic, assistant or associate. Available October 1. LW-170

A 31 year old, married physician, Episcopalian, graduate University of Pennsylvania. Present practice limited to hospital patients. Desires to enter private practice. Specialty Internal Medicine. Available now. LW-171

A 33 year old, married physician, Protestant, graduate Medical College of South Carolina Board qualified—Dermatology. Priority IV. Available July. LW-174

A 44 year old, married physician, Jewish, graduate University of Illinois, Board certificate held in Ophthalmology. Priority 4F. Desires associate or Solo. Available immediately. LW-176

A 31 year old, married physician, Episcopal, graduate Georgia Medical College, specialty training in Ob-Gyn. Category 4. Desires clinic, assistant or associate. Available August 1. LW-179

A 33 year old, married physician, Protestant graduate Duke University, Board Eligible for American Board of Surgery in July, 1956. Draft exempt. Desires general surgery. Available July, 1956. LW-180

A 41 year old, married physician, Protestant, graduate University of Texas School of Medicine. Desires Otolaryngology and endoscopy in Clinic, assistant or associate. Available September 1. LW-181

A 36 year old, married physician, Catholic, graduate University of Colorado. Board eligible in Pediatrics. Military status, not Eligible, previous service. Desires clinic, assistant or associate. Available August 1. LW-182

A 30 year old, married physician, Protestant, graduate Meharry Medical College. Priority 4. Desires general practice. Available July 1. LW-183

A 35 year old, married physician, Protestant, graduate Yale University. Priority 4. 20 months residency in Internal medicine. Six years practice of Internal medicine. Available 60 days following notice. LW-184

A 49 year old, married physician, Protestant, graduate University of Colorado School of Medicine. American Board Certificate in Obstetrics-Gynecology. Twenty-four years active Navy service. Associate, or share office with other specialist than Obs-Gyn. Available August 1. LW-186

A 29 year old, married physician, Protestant, graduate Duke University. Two years Pediatrics completed as of May, 1956. Priority IV. Available May, 1956. LW-187

A 33 year old married physician, Protestant, graduate Washington University, certified by American Boards of Internal Medicine. Community preferred 30,000. Desires clinic, assistant or associate in East Tennessee. Available July 1. LW-188

A 41 year old married physician, Protestant, graduate Jefferson Medical College of Philadelphia. Draft exempt. Desires general practice. Possibly Clinic—if so in Internal Medicine. Available 3 months after making decision. LW-189

A married physician, Protestant, graduate University of Arkansas. Board eligible in psychiatry, but interested in returning to general practice. Draft exempt. Available now. LW-190

A 55 year old, married physician, Protestant, graduate Buffalo. Desires general practice. Available July 12. LW-191

A 30 year old, single physician, Protestant, graduate Columbia University. Board eligible in Internal Medicine, plus "subspecialty" in Radioisotopes as applied to Int. Med. Priority IV. Available July 15. LW-192

Physician, graduate University of Tennessee, married, Protestant, one year in surgery. Priority IV, desires general practice, limited surgery, clinic, assistant or associate. Available August. LW-193

### Physician Wanted

Town of 10,000 population, West Tennessee, desires general practitioner. Community cooperation promised in securing housing and office space. Wonderful opportunity for a young doctor. No other physician in town. PW-67

APPROVED CARD RECORD  
Committee on Postgraduate Instruction in Obstetrics  
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## TRUSTEES

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## SPEAKER OF THE HOUSE

Robert N. Buchanan, Jr., M.D., Nashville  
**Vice-Speaker**—Joseph W. Johnson, Jr., M.D., Chattanooga

## COUNCILORS

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## DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION

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 Charles C. Smeltzer, M.D., Knoxville (1956)  
 C. M. Hamilton, M.D., Nashville (1957)  
**Alternates**—  
 Harold B. Boyd, M.D., Memphis (1957)  
 Harmon L. Monroe, M.D., Erwin (1956)  
 R. H. Kampmeier, M.D., Nashville (1957)

## PRESIDENTS AND SECRETARIES OF COUNTY MEDICAL SOCIETIES, 1955

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**Benton-Humphreys**  
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 W. N. Dawson, M.D., Maryville, Secretary  
**Bradley**  
 Charles S. Heron, M.D., Cleveland, President  
 William I. Proffitt, M.D., Cleveland, Secretary  
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 Harry E. Jones, M.D., Interstate Bldg., Chattanooga, Secretary  
**Cooke**  
 W. B. Robertson, M.D., Newport, President  
 Glen C. Shults, M.D., Newport, Secretary  
**Consolidated Medical Assembly**  
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 S. M. Herron, Jackson, Secretary  
**Coffee**  
 Bryant S. Swindoll, M.D., Tullahoma, President  
 Coulter S. Young, M.D., Manchester, Secretary  
**Cumberland**  
 Robert M. Metcalfe, M.D., Crossville, President  
 A. M. Taylor, M.D., Crossville, Secretary  
**Davidson County Medical Society**  
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 Oscar F. Noel, M.D., 2118 West End Ave., Nashville, Secretary  
 Mr. Jack Drury, 647 Doctors Bldg., Nashville, Executive Secretary  
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# Journal of the Tennessee State Medical Association

OWNED AND PUBLISHED BY THE ASSOCIATION

Volume 48

AUGUST, 1955

Number 8

*It is re-emphasized again that the cure-rate in carcinoma is dependent upon early diagnosis preferably in the asymptomatic stage.*

## ASYMPTOMATIC BRONCHOGENIC CARCINOMA\*

ROBERT P. McBURNEY, M.D.,† Memphis, Tenn.

Survival of a patient who has carcinoma depends on such things as the virulence of the growth, the resistance of the host, the time of detection, and the treatment. Many of these factors are difficult to determine; however, I believe all would agree that visceral carcinoma in an asymptomatic stage should be an early growth, and should have a better prognosis if treated in such a stage.

In the years prior to the late 1940's, very few surgeons were operating on asymptomatic lung lesions. However, in the past decade, it has become recognized that the asymptomatic lung lesion has a 20 to 30 per cent chance of being malignant and, as such, should be resected.

Overholt<sup>1</sup> has stated it was his belief that if resection was done for carcinoma in an asymptomatic stage, 80 per cent of cases should be curable.

In 1954, Kirklin, Hood, and I<sup>2</sup> studied some 1,600 proven cases of bronchogenic carcinoma seen at the Mayo Clinic. Twenty-nine entirely asymptomatic cases were found in this group. All cases with a history of previous malignancy, and all cases with any pulmonary symptoms, irregardless of intensity, were excluded.

A study in detail of these 29 cases revealed they represented an incidence of about 2 per cent of the total number of bronchogenic carcinomas seen. There were 27 men and 2 women in the series, and the average age of the patient was 56 years.

All cases were discovered by roentgenologic study, either by the family physician, the mobile unit tuberculosis survey, or as

part of a routine examination. Physical examination gave negative results in all except three cases. The findings in these were scattered rales or slight depression of breath sounds over the involved area.

In 22 of the 29 cases, the chest X-ray revealed a rounded nodular or well circumscribed type of lesion, and in the remaining 7 cases, the area of density was irregular. Bronchoscopy was negative in 20 of 22 cases, and cytologic study was negative in 20 of 23 cases.

All cases were operable and all were resected, 15 by lobectomy, and 14 by pneumonectomy. In two of the cases, the operation was considered palliative because of invasion of the thoracic wall.

The interval from time of discovery to resection varied from four years in one case to three days in another. In 5 cases, the interval was 2 years or longer. Exclusive of these, the average interval was 10 weeks.

### Pathologic Features

Twelve of the tumors were classified as the adenocarcinoma type; 11 as the large cell undifferentiated type; 2 as the small cell type, and 4 as the squamous cell type. They averaged 3 to 4 cm. in diameter. In 18 cases, the hilar lymph nodes were negative and were positive in 11. In 21 cases, the tumor was located peripherally, and was in the midlung field or centrally located in the remainder.

### Prognosis

There was no hospital mortality following resection in this group of cases. At the time of follow-up studies (Table 1), 14 of the 29 had died and 15 were still alive. Six of these died in the first year after hospital dismissal.

\*Read before the meeting of the Tennessee Chapter of the American College of Surgeons, April 11, 1955, Chattanooga, Tenn.

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Table I

## PROGNOSIS OF ASYMPTOMATIC BRONCHOGENIC CARCINOMA

| Years | Years Following Hospital Dismissal |        | Total |
|-------|------------------------------------|--------|-------|
|       | Dead                               | Living |       |
| 0-2   | 10                                 | 8      | 18    |
| 2-3   | 4                                  | 2      | 6     |
| 3-4   | 0                                  | 3      | 3     |
| 4-6   | 0                                  | 0      | 0     |
| 6-7   | 0                                  | 2      | 2     |
|       | 14                                 | 15     | 29    |

## Discussion

One would certainly expect, and indeed it is probably so, that all cancers of the bronchi have an asymptomatic phase. That this may be of years duration in some cases is a demonstrated fact.

Most early bronchogenic carcinomas cause symptoms by either being a nidus of bronchial irritation and causing cough, or by obstructing a bronchus of bronchioles and thereby causing cough and symptoms related to obstructive pneumonitis. Some cases may be completely silent in the lung, but cause severe symptoms by metastasis to areas such as the brain, liver, or other areas. With the situation of the present day, only a small per cent are found and treated in a completely asymptomatic stage.

From the experience at hand, it appears that most asymptomatic lesions are those which arise peripherally and also will be mainly of the adenocarcinoma and large cell undifferentiated cell type. Thus, in this study, 21 of the 29 cases were peripherally located, and 23 were of the adeno or large cell carcinoma type. This indicates that in most cases to be an asymptomatic lesion, the tumor should arise in the periphery of the lung where bronchioles are small and where obstructive pneumonitis does not occur.

The incidence of the cell type in this study bears out the findings of McDonald and co-workers,<sup>14</sup> in which these authors showed that the small cell and squamous cell carcinomas were usually centrally located and nearly always symptomatic,—whereas the large cell carcinomas were fairly evenly distributed in location, and the adenocarcinomas were more frequently peripherally located. Some of the cases in his present study were previously studied by these authors.

In Carlisle, McDonald and Harrington's<sup>5</sup> study of squamous cell carcinoma of the bronchus, there was not a single asymptomatic case in the 373 proven cases, nor was there one in McBurney, McDonald and Claggett's<sup>1</sup> group of 90 small cell carcinomas. Those cases of small cell and squamous cell carcinoma in this study were seen subsequent to 1950.

The clinical findings in this group of asymptomatic lesions are interesting in that the physical examination was negative in the vast majority as was the bronchoscopy and cytologic studies. Diagnosis was made in most cases by exploratory thoracotomy and resection.

We were particularly disappointed to learn that in spite of finding these patients with bronchogenic carcinoma in an asymptomatic stage, the mortality of the disease was still high, even with only a year and a half follow-up. Almost 50 per cent were dead at the time of our study. At such a mortality rate, one wonders, after 5 years have elapsed, if there will be much significant improvement over the mortality of symptomatic resected cases.

To go into this a bit further, we selected at random a group of cases of squamous cell carcinoma that had been resected in 1947 and followed up their progress. There were 12 such cases resected in that year, and 6 of these lived 5 years or more. In other words, there was a 50 per cent five year survival in that particular group. It is highly doubtful that the asymptomatic group will have as good results after 5 years.

It is important to remember that 100 per cent of these asymptomatic cases were operable and 100 per cent were resectable. Thus, considering the over-all group, the prognosis of asymptomatic lesions is almost four times better than that of bronchogenic carcinoma in general. Despite an only fair prognosis in any individual case, the advantages of finding and treating bronchogenic carcinoma in the asymptomatic stage are obvious.

We have been able to ascertain, to some extent, the mode of metastasis in some of our cases that died. There were 7 cases of the 14 who died on whom we had adequate information. Four of the 7 died of brain metastases, and 2 with bone and liver metastases. One had a metastasis show in the



supraclavicular lymph nodes as the first evidence of a fatal prognosis. This is not proof, but suggests that in the case of asymptomatic carcinoma one has more to fear from blood borne than from lymph nodal metastases.

The results of this study force one to disagree to some extent with the most optimistic workers who use such phrases as, "It is *proven* that if treated in the silent phase, lung cancer can usually be cured."<sup>9</sup> It is most certainly felt that the earlier one can detect bronchogenic carcinoma, or indeed, any carcinoma, the better is one's chance of producing a cure.

It appears more progress could be made if efforts were made by every physician to definitely diagnose every patient who has a cough no matter how slight, for this is the tip-off to the presence of the early squamous carcinoma, and it is in these that a great salvage can be anticipated. From previous experience, it seems that few centrally located squamous carcinomas will be detected in an entirely asymptomatic phase.

In spite of the fact that the results of treatment in this particular group of cases is a little discouraging, there is no question but that early surgery in such silent cases is the procedure of choice. One should not watch such lesions for long periods of time, nor should one waste time with repeated bronchoscopies, bronchograms, repeated search for tubercle bacilli, and the like. One thorough accurate diagnostic study should suffice, and if no definitive diagnosis is made, then exploratory thoracotomy should be advised, if there is any question at all of the possibility of carcinoma being present.

### Conclusions

1. Asymptomatic cases comprise about 2 per cent of the total proven cases of bronchogenic carcinoma.

2. Physical examination in such cases is

usually negative, as are bronchoscopy and cytologic studies of sputum.

3. All such cases were discovered by means of chest X-ray examination.

4. The majority of such cases are of the adeno- and large cell carcinoma type, and these are located peripherally in most cases.

5. Results of treatment in asymptomatic cases are somewhat better than for bronchogenic carcinoma as a whole, but are not as good as hoped for.

6. The higher resectability rate (100 per cent) makes the over-all picture of asymptomatic lesions brighter, but does not improve prognosis in any individual case.

7. There is no question but that early diagnosis and treatment is still the one method whereby more cases of bronchogenic carcinoma can be cured. A chest X-ray every 6 months for all males over 40 would materially aid in this situation.

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*Chronic disease of the kidney practically always inexorably progresses to death. Treatment at best is a delaying action.*

## MANAGEMENT OF CHRONIC RENAL DISEASE\*

HALL S. TACKET, M.D.,† Memphis, Tenn.

Even 135 years after Richard Bright described the disorder that bears his name, we remain pathetically incapable of curing chronic renal disease. Nevertheless, present concepts of renal physiology and the ability to combat secondary infection often permit the unfortunate victims of chronic nephritis to enjoy comfortable prolongation of life.

"Chronic nephritis" and "Bright's disease" are terms that refer to several entities that have in common disruption of renal parenchyma and impairment of renal function. In many of these conditions, destruction of parenchyma and impaired renal function are relentlessly progressive to terminate ultimately in the kidney's inability to maintain homeostasis. Among the entities designated as chronic nephritis are chronic glomerulonephritis, arteriolar nephrosclerosis, chronic pyelonephritis, polycystic kidney, nephropathy occurring in disseminated lupus erythematosus, diabetes mellitus, amyloidosis, and lymphoma, and finally, deficient renal function that accompanies obstruction in the urinary tract.

Precise diagnosis of the condition causing chronic renal disease is important, and indeed, comprises the first step in adequate management. Exclusion of conditions that may be remedied by surgical procedures is a primary obligation. Relief of obstruction in the urinary tract may restore alarmingly impaired renal function virtually to normal and be the patient's sole hope for survival.

*Case 1.* A 69 year old man complained of weakness and anorexia. The blood pressure was 180 systolic, 120 diastolic. Several flame-shaped hemorrhages were seen in the ocular fundi. The b'adder was distended to the umbilicus, and massive benign hypertrophy of the prostate was palpable rectally. The blood nonprotein nitrogen was

72 mg. per 100 cc., and the excretion of phenolsulfonphthalein was 4 per cent in 15 minutes. Following prostatic resection, the blood pressure fell to 150 systolic, 100 diastolic; the retinopathy disappeared, and the blood nonprotein nitrogen dropped to 36 mg. per 100 cc. The patient lived comfortably for 6 years, ultimately dying from a cerebral vascular accident.

Precise diagnosis of the primary condition underlying chronic renal disease is further important so that renal infection may be discovered and treated specifically.

*Case 2.* A 39 year old woman was admitted to the hospital completely comatose. Examination disclosed a temperature of 103° F., Kussmaul respiration, and urea frost of the eyebrows. The urine contained innumerable leukocytes. Blood nonprotein nitrogen was 165 mg. and CO<sub>2</sub> combining power 10 vol. per 100 cc. Her condition progressively deteriorated despite therapy with tetracycline. Urinary culture grew an organism sensitive only to Furadantin. Two weeks after therapy with Furadantin was started, the patient was discharged from the hospital completely asymptomatic, but with slight persistent renal functional impairment as shown by a blood nonprotein nitrogen of 45 mg. per 100 cc. and phenolsulfonphthalein excretion of 8 per cent in 15 minutes.

Often one fails to find obstruction or infection which are amenable to direct and successful attack. Therapeutic resources then consist of the palliative application of a thorough knowledge of the natural history of chronic renal disease and the alterations in renal physiology that result.

The natural history of chronic renal disease may be reviewed by studying glomerulonephritis as a prototype. Eighty per cent of the victims of acute glomerulonephritis recover completely from the illness without detectable renal functional impairment. In the remaining 20 per cent, chronic glomerulonephritis ensues. Evidence of smoldering activity of the disease may persist in the form of mild proteinuria, slight microscopic hematuria, and cylinduria for years before clinical deficiency of renal function can be recognized. Ultimately, however, impaired excretion of phenolsulfonphthalein, deficient

\*Read before the Meeting of the Tennessee State Medical Association, April 12, 1955, Chattanooga, Tenn.

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urinary concentrating ability, and depressed urea clearance develop. Throughout this period the patient is often completely asymptomatic, and the only evidences of disease on physical examination may be mild hypertension, cardiomegaly, and changes in the ocular fundi.

Some patients with chronic glomerulonephritis, at an unpredictable time in their course, will develop the nephrotic syndrome. This condition, also known as "subacute nephritis," or the "nephrotic stage of chronic glomerulonephritis," consists of massive proteinuria, hypoproteinemia, anasarca, and often elevation of the serum cholesterol. The nephrotic syndrome may persist for years, finally terminating in the death of the patient from renal insufficiency. Or its manifestations may subside and the clinical picture is again that of uncomplicated chronic glomerulonephritis.

Finally, regardless of whether the nephrotic syndrome supervenes, destruction of renal parenchyma becomes so advanced that excretion of metabolic end-products and regulation of acid-base balance are no longer properly accomplished. Such cases are those of terminal glomerulonephritis with uremia.

Patients with chronic latent nephritis are urged to live as normal lives as possible. One should not superimpose upon the chronic renal disease, usually asymptomatic within itself, functional symptoms induced by frequent examinations and restriction of activity. The life span of such patients is often many years. They should be encouraged to complete their educations and to make their due contributions to society. Because respiratory infections are often associated with exacerbations of renal inflammation, nephritic patients should guard themselves against excessive fatigue and inclement weather. Infections should be treated promptly with antibiotic agents if there is any suspicion that they are due to susceptible bacteria. Empirically, one may justify monthly injections of dibenzylpenicillin to prevent infection with the type 12 streptococcus, believed important in the pathogenesis of glomerulonephritis. However, the value of such prophylactic therapy has not yet been conclusively demonstrated, in contrast to the well documented value of

this measure in the prevention of rheumatic fever.

Addis<sup>1</sup> assembled impressive theoretical and experimental justification for the prescription of a low protein diet to patients with chronic nephritis. He urged that the major work of the kidney is excretion of the end-products of protein metabolism, both urea and inorganic acids. On the basis that recovery of the diseased kidney is favored by reduction of the osmotic work demanded of it, he advocated the restriction of protein to the minimum consistent with proper growth and development. He suggested that children be given 0.75 Gm. and adults 0.5 Gm. of protein per kilogram of body weight daily. Patients should take 3,500 to 4,000 cc. of fluids daily, since excretion of a dilute urine demands less osmotic work of the kidney. This therapeutic program is not supported by controlled experience in human patients, but its theoretic justification is difficult to refute.

Patients with the nephrotic syndrome are seriously troubled by their massive edema, so often so severe that they seem to be drowning in their own body fluid. Dietary protein in patients with the nephrotic syndrome should be increased sufficiently to supply the normal quantities required for maintenance of body substance plus the amount lost in the urine. The 24 hour urinary excretion of protein should be measured. Often this amounts to 15 or 20 Gm. per day, and this quantity of protein should be added to the diet. Efforts to raise the concentration of the serum proteins by increasing dietary protein to high levels are fruitless. Transfusions of blood, plasma, or concentrated human serum albumin also are profitless. The infused protein is rapidly excreted in the urine without benefiting the edema. Intake of sodium chloride should be drastically restricted. The milder diuretic agents, such as aminophylline, urea, and ammonium chloride, are usually prescribed, but are not commonly helpful. I have not observed any beneficial effect of carbonic acid anhydrase inhibitor (Diamox) in the nephrotic syndrome.

The use of the mercurial diuretics in the nephrotic syndrome is controversial. Many physicians feel that administration of a nephrotoxic agent such as organic mercury



is indefensible when the kidney is already diseased, even though the mercurial toxicity is presumably reversible. However, I have felt justified in the cautious use of a mercurial diuretic, if less objectionable procedures are ineffectual. I do not believe that serious harm has been done, and some patients have been ridded of their edema by the administration of mercury much sooner than would otherwise have been expected. I insist, however, that diuresis follow an injection before another dose is administered. Repeated injections of mercury that do not induce diuresis do no good, and may be harmful because of cumulative action of the drug.

Adrenocorticotrophic hormon (ACTH) and cortisone induce diuresis in about 60 per cent of cases. Cortisone or hydrocortisone, effective by mouth, is the agent most conveniently used. Cortisone is given in a dosage of 100 mg. daily for 10 days. Diuresis may begin about the third day of therapy in some patients. In other patients, there may be a slight increase in edema during the course of therapy, but diuresis occurs after the course has been completed.

Goldring and Chasis<sup>2</sup> first used nitrogen mustard therapy in the nephrotic syndrome. Although experience with this agent has not been large, it seems effective to about the same degree as cortisone. I have observed 6 patients with the nephrotic syndrome who were given nitrogen mustard. Gratifying diuresis occurred in four.

*Case 3.* A 23 year old man had had massive edema, proteinuria, and hypoproteinemia for a year. His weight was 194 pounds. Methyl-bis, 0.1 mg. per kg. of body weight, was given intravenously on each of 4 successive days. Diuresis began 6 days later. Within 2 weeks he was free of edema and the weight had dropped to 135 pounds. Fluid retention had not recurred on the last observation of the patient 6 months later.

As the patient with chronic nephritis approaches the terminal stage of his disease, symptoms and signs develop that must be attacked directly. The frequent nausea and vomiting of terminal nephritis are at least partially controlled with chlorpromazine (Thorazine). Chloral hydrate and the shorter acting barbiturates are the most useful sedative agents. The diet of the patient with terminal renal disease should

contain minimal protein. This is necessary not only to spare the kidney the osmotic work involved in the excretion of urea, but, more importantly, to reduce the production of phosphates and sulfates that contribute to acidosis. Carbohydrate content of the diet should be liberal to spare endogenous protein metabolism as much as possible.

The anemia of chronic renal disease is believed to result from both defective formation of erythrocytes and increased destruction of erythrocytes. Hematinic medication is completely futile. Although the benefit conferred by transfusions is short-lived, administration of whole blood may assist in tiding patients over the crises resulting from intercurrent infection or exacerbation of inflammation within the kidney.

Moderate elevation of the blood pressure is usual in chronic renal disease. If hypertension is a conspicuous feature of the clinical picture, it may be controlled by the new depressor agents. Of these veratrum derivatives are the most desirable, since they do not reduce renal blood flow. In advanced renal insufficiency with levels of blood non-protein nitrogen above 75 mg. per 100 cc., reduction of the blood pressure by vigorous therapy may enhance renal insufficiency by reducing filtration pressure in the kidney. There is no reason to believe that control of the blood pressure influences the primary renal lesion. Depressor therapy is justified to reduce the strain on the left ventricle of the heart, particularly when there is congestive heart failure. Also, the development of arteriolosclerosis may be impeded by reducing the blood pressure.

Congestive heart failure resulting from renal hypertension is managed as is congestive heart failure due to other etiology. In the nephritic patient, however, the physician must be more than usually cautious not to precipitate serious electrolyte disorder by excessively zealous dietary salt restriction and measures to increase excretion of sodium. Often the physician must steer a treacherous therapeutic course between the Scylla of congestive heart failure and the Charybdis of acidosis. If sufficient sodium is given to correct acidosis, the patient develops congestive heart failure. If sodium is restricted to control cardiac failure, aci-

dosis and uremia are rapidly progressive.

Serum electrolyte patterns in terminal renal disease vary widely. The most common pattern is depression of the sodium, carbonate, and chlorine, with elevation of potassium and the retention of phosphates and sulfates. Total body water may be either depleted or in excess. Correction of these changes requires frequently repeated laboratory analyses. The following formula is used as a basis for estimating the corrective dose of a given ion:

$$\text{Meq. required} = 0.6 \times \text{body wt. (kg.)} \times \text{ion deficit (meq./l.)}$$

This formula is based upon the assumption that body water comprises about 60 per cent of the total body weight and that the given electrolyte is totally distributed in the body water. About half the calculated dosage should be given. Then blood chemical values should be rechecked to preclude overshooting the electrolyte correction.

Case 5. A 43 year old, 50 kg. woman with terminal glomerulonephritis had a blood non-protein nitrogen of 145 mg. per 100 cc., serum sodium of 108 meq. per liter, chloride of 75 meq. per liter, and carbonate of 10 meq. per liter. The estimated corrective dose of sodium chloride was determined as follows:

$$\begin{aligned} \text{Required meq. Na.} &= 0.6 \times 50 \times [140 (\text{normal serum Na}) - 108] \\ &= 30 \times 32 = 960 \text{ meq. Na.} \end{aligned}$$

Since one liter of normal saline contains approximately 140 meq. of sodium, infusion of 7 liters of saline would theoretically correct the deficiency of sodium. In practice, only half of this quantity would be prescribed at one time.

Corrective electrolyte solutions must be tailor-made to fit the individual patient's circumstances. In the case just cited, it happened that supplying the sodium in the form of sodium chloride simultaneously met the patient's requirement for chloride. In a situation in which the chloride is less depressed, some of the replacement sodium may be in the form of sodium lactate. One liter of sixth molar sodium lactate contains approximately 140 mellequivalents of sodium.

Tragically often, when marked electrolyte aberrations develop, renal insufficiency has progressed to the point that all therapeutic efforts are ineffectual and the patient shortly expires. However, one encounters the occasional case in which severe disruption

of renal function is due to intercurrent infection or to exacerbation of the nephritis. If the patient can be sustained through the crisis, he may enjoy a substantial period of additional comfortable life. In such cases, application of the artificial kidney may be indicated. The physician should be reluctant to give up all hope even in patients with seemingly irreversible renal insufficiency.

To conclude, the physician's role in the treatment of chronic renal disease is invariably to palliate symptoms and to delay complete dissolution of the body's internal environment. In the management of chronic nephritis, the skilled physician "cures seldom, relieves often, and comforts always."

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### Discussion

DR. I. FRANK TULLIS (Memphis): I should like to congratulate Dr. Tacket on his concise summary on this very important problem.

We have all watched for some time the conflicting ideas about how much protein should be given a patient with renal insufficiencies. I have been impressed in practice that the plan championed more recently by the late Dr. Addis has much merit. All patients who pass a certain point in their illness do poorly on any program, but there certainly are some individuals who are significantly improved by decreased protein intake.

The severely edematous nephrotic is a challenge to the physician's therapeutic skill, and the distress suffered by these people certainly justifies a vigorous approach. Like Dr. Tacket, I have used mercurial diuretics with caution and have felt that often they are of benefit. Having had the opportunity to observe the effect of nitrogen mustard in some of the patients referred to in this paper, I am impressed most favorably with the agent, as well as with ACTH and cortisone. They do not cure, but they often provide improvement. In addition to edema, other findings such as nausea, vomiting and anemia, present a problem. Although relief is admittedly only temporary, it is most welcome, and appropriate treatment is in order.

While renal insufficiency is a generally discouraging problem, it behooves us all to remember that we might not have the scientific success we prefer in the management of such problems, but we can at least provide hope and comfort to these people at a time of great suffering.

*Other more common infectious diseases of past years have given the stage to viral hepatitis. The infectious or epidemic type poses a public health problem. The homologous serum type is a medically induced disease, the doctor's or technician's instrument, and whole blood or serum being the vectors.*

## HEPATITIS\*

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In discussing the subject of hepatitis, I wish to limit my remarks to viral hepatitis. This includes primarily two diseases which are caused by filtrable viruses and which are being encountered more and more frequently by all practitioners of medicine. This is not to say that hepatitis is a new disease. The two diseases to which I refer are infectious hepatitis and homologous serum hepatitis. Since 1865 when Virchow first proposed the label of *catarrhal jaundice*, believing the transitory jaundice of young people to be due to a mucous plug in the common bile duct and catarrhal inflammation of the biliary tract, infectious hepatitis has been known under many labels. These include cholangitis, catarrhal jaundice, acute and subacute yellow atrophy of the liver, and epidemic hepatitis. In 1939 liver biopsy studies demonstrated that the primary pathology was a diffuse, parenchymal hepatitis. It is interesting to note that epidemics of jaundice have been recorded during most of the major wars of the last 100 years. Over 170,000 cases were reported amongst personnel of the U. S. Army during World War II. Other factors which should serve to increase our interest in viral hepatitis include the increased usage by the profession of blood and plasma transfusions and blood products, the proof that carriers of both the virus of infectious and serum hepatitis exist in our population, that the obtaining of simple laboratory tests by inadvertently contaminated lancet, needle, or syringe may result in this disease, and that active disease may exist in the absence of jaundice.

### Epidemiology

Epidemiological studies have proven that the usual mode of transmission of the virus

of infectious hepatitis is by the fecal-oral route. This was demonstrated by producing the disease in human volunteers and the discovery of an endemic focus in an orphanage where 45 per cent of the student nurses developed the disease. As yet it has been impossible to transmit the virus to laboratory animals. It is generally agreed that the virus of serum hepatitis is transmitted parenterally by the use of blood, plasma, blood products, and through the use of contaminated lancets, needles, and syringes. Again as in infectious hepatitis information has depended on the use of human volunteers. There appears to be no sex or race predisposition to infectious hepatitis. Children and young adults appear to be more susceptible. Although no accurate, uncontestable data is available, results of skin testing with a modified virus would indicate that 35 per cent of adults are immune and therefore have presumably been infected. However, a history of jaundice can be obtained in only 5 per cent of those tested, suggesting that 30 per cent had active disease without clinical jaundice.

The viruses of infectious and serum hepatitis have certain distinct, individual features. The incubation period of the former is 10 to 40 days and the latter 50 to 150 days. Immunity produced by active infection with the virus of serum hepatitis is of longer duration possibly due to the more prolonged antigenic stimulus to antibody formation. No cross immunity between the two viruses has been demonstrated. As would be expected the probability of infection with the virus of serum hepatitis is greater when plasma or blood products are obtained from large donor pools. The probability of infectious hepatitis is greater where sanitation is poor, overcrowding occurs, and in certain occupational groups such as nurses, laboratory technicians, and physicians. Infectious

\*Read before the Meeting of the Tennessee State Medical Association, April 13, 1955, Chattanooga, Tenn.



hepatitis can be prevented by the early injection of gamma globulin, and although not always effective, gamma globulin may protect against serum hepatitis. No effective nor practical means of treating whole blood or plasma has been discovered to destroy the virus of serum hepatitis.

#### Clinical Picture

The clinical onset of *infectious hepatitis* is usually acute with fever, aching of muscles, chilly sensations, headache, nausea, and loose stools. The fever usually lasts two to four days and is then followed by a period of a few days to two weeks in which no fever is noted. At this time a diagnosis of influenza might be considered. Several days after the disappearance of fever, jaundice appears and is accompanied by an increase in the severity of symptoms, particularly nausea and vomiting and the appearance of light stools and dark urine. Occasionally acute right upper quadrant abdominal pain occurs. The jaundice usually increases for seven to ten days and then begins to decrease, at which time symptoms suddenly abate. Although the duration of jaundice is extremely variable, the average is three weeks. An interesting complaint from those patients who smoke is a marked distaste for smoking.

The usual findings on physical examination are mild, generalized adenopathy, jaundice, enlargement of the spleen in one out of five, and a liver which is tender on palpation and percussion. The pain elicited by fist percussion may not appear for a few seconds but generally lasts some minutes or hours. The degree of liver tenderness seems to be proportional to the degree of activity during the period of prodromal symptoms. Milder forms of the disease without jaundice may escape detection and be variously labelled influenza, anxiety state, or fatigue syndrome. It is therefore all the more important that this disease be kept in mind, since the milder form may become chronic and result in exacerbations and remissions over a period of many years. Occasionally severe forms of this disease result in liver failure and death, and in the past have been termed acute yellow atrophy of the liver. About 10 per cent of patients are symptomatic at the end of three

months and 3 per cent are symptomatic at the end of one year.

The clinical onset of *homologous serum hepatitis* is much less explosive and often there is no fever. Initial symptoms include fatigue, anorexia, looseness of stools, headache, and right upper quadrant or right lumbar ache. Occasionally urticaria, joint pains, and a vesicular rash, particularly of the palms, may be present. After a period of a few days to a few weeks jaundice, light stools, and dark urine make their appearance. A history of the patient having received blood, plasma, blood products, or an injection within a period of 50 to 150 days preceding the onset of symptoms, is necessary to entertain the diagnosis of serum hepatitis.

The rationale of the use of numerous and complicated *laboratory tests* in the average case of infectious or serum hepatitis represents an unnecessary expense and false economy in the use of laboratory personnel. Probably the simplest and earliest test to become positive is the finding of bilirubin in the urine. Somewhat later the cephalin flocculation and thymol turbidity tests become positive. With the appearance of jaundice the serum bilirubin and the urobilinogen content of the urine are increased. The Bromsulphalein test is of no value in the presence of jaundice, but is a very reliable index of the excretory function of the liver in the convalescent phase and chronic form of these diseases. The serum bilirubin determination represents the most useful guide as to the patient's progress. Not infrequently overlooked is the fact that salt and water retention occur during the active phase, and with the beginning of improvement a noticeable diuresis occurs. Since the blood smear in infectious hepatitis may be similar to that seen in infectious mononucleosis with hepatic involvement, the heterophil-antibody test may be necessary for differentiation. The heterophil antibody titers are within normal limits after absorption with guinea-pig kidney and beef red cells in infectious hepatitis.

#### Treatment

The greatest controversy arises in the consideration of what constitutes the most ideal therapeutic program in the manage-

ment of viral hepatitis. Basically this resolves itself into two therapeutic principles,—duration of bed rest and what constitutes the most ideal diet. From a practical viewpoint, it is often more important to find a way to entice an acutely ill patient to ingest any diet, or to devise a method by which adequate nutriment may be furnished by stomach tube or parenteral infusions. In the past the standard diet prescription has been the high carbohydrate, high protein, low fat diet. More recent studies of dietary management would indicate that the diet should be high in total calories with less emphasis placed on the content of carbohydrate, fat, and protein. In order to obtain a higher caloric intake and a more palatable diet, relatively large amounts of fat, if tolerated, do not seem to be contraindicated. Complete bed rest should be reserved only for the very acutely ill patient. The use of a bedside commode is within the limits of reason. Once a definite decrease in the serum bilirubin has begun and the patient is subjectively improved, an increasing degree of activity should be encouraged. A return to any degree of the symptoms of the acute phase or a sudden cessation of the decrease in serum bilirubin will serve as an index of too rapid removal of restriction of activity.

Several agents including broad spectrum antibiotics, B<sub>12</sub>, and lipotropic substances have not proven consistently to alter the course of viral hepatitis. More recently interest has been aroused in the possible beneficial effects of ACTH and cortisone. In general it may be stated that these agents are advantageous in increasing appetite, decreasing the duration of jaundice, bringing about a more rapid return to normal of Bromsulphalein excretion, and shortening the duration of viral hepatitis. However, it should be quickly mentioned that the disadvantages may include an increase in salt and water retention and, more important, an increased incidence of relapse and chronic hepatitis.

## Conclusions

In conclusion it may be said that viral hepatitis (infectious and homologous serum) is of increasing importance to the epidemiologist, virologist, pathologist, and clinician. As with all viral diseases which are potentially fatal or disabling, the hope is that prophylactic immunization may some day be practical. In the meantime an awareness of the contagiousness of infectious hepatitis and the inherent danger of serum hepatitis in parenteral therapy may be helpful.

## Discussion

GEORGE L. SIVILS, M.D. (Chattanooga): I would like to congratulate Dr. Strickland for his very excellent coverage of the subject of "Infectious and Serum Hepatitis."

I would like to emphasize the importance of overtreatment of the majority of patients with this disease, and for this reason. It is impossible in the early stages to distinguish between that 20 to 30 per cent who will have complications and sequelae from the 70 to 80 per cent who, in all probability, would recover spontaneously without treatment.

It has been adequately shown that the feeding of moderate amounts of fat in the diet is not contraindicated particularly as long as the patient has adequate protein intake.

It is considered advisable to let the patient have bathroom privileges from the start if he feels like being up. Of course the acutely ill individual will be satisfied to remain in bed. Three weeks of bed rest or semi-bed rest will suffice in the average case until more aggressive ambulation can be started. Some of the more important criteria for ambulation and convalescence are: (1) normal temperature; (2) patient regained the weight he lost during early stages of the disease; (3) B.S.P. retention of 5 per cent or less in 45 minutes; (4) return to normal liver size (not more than 1½ fingers below the costal region); and (5) total serum bilirubin down to 1.5 mg. per 100 cc.

Convalescence may be considered ended when the liver function tests have all returned to normal, the patient has resumed full activity and feels well, and physical findings that are normal.

The patient should be seen approximately 3 and 6 months after apparent recovery for re-evaluation. If all findings are persistently normal, the patient may be discharged from observation with confidence, that the liver has completely regenerated and is functioning normally.

*This is an interesting analysis of the trends in newborn mortality in one of the smaller hospitals.*

## A FIVE YEAR NEWBORN MORTALITY REPORT

SAMUEL S. LAMBETH, M.D., Maryville, Tenn.

Continued efforts are necessary to increase the salvage rate of newborn infants. Potter and Jack<sup>1</sup> recently emphasized the obstetrician's responsibility in this regard. Bundesen,<sup>1</sup> in a detailed report, discussed the vigorous measures which have been instituted by the Chicago Board of Health, to reduce the number of preventable prenatal deaths in that city. Many states and communities now have infant mortality committees. In view of the widespread interest in the subject it is well to consider the

results in our hospital.

The present analysis supplements and expands previous reviews of newborn deaths<sup>2,3</sup> and includes all the deaths at the Blount Memorial Hospital, Maryville, Tenn., in the years 1950-1954. The data were obtained by a review of the hospital records; that is, from "cold charts," and are thus subject to personal errors in interpretation. One purpose in publishing this material is to invite other similar institutions to submit their figures for comparison.

Table 1  
NEWBORN AND MATERNAL DEATHS

| Year   | Total Deliveries | Newborn Deaths | Mortality Rate | Ante-Partum | Intra-Partum | Neo-Natal | Maternal Deaths |
|--------|------------------|----------------|----------------|-------------|--------------|-----------|-----------------|
| 1950   | 1126             | 40             | 3.5%           | 10          | 9            | 21        | 1               |
| 1951   | 1239             | 34             | 2.7%           | 11          | 4            | 19        | 1               |
| 1952   | 1210             | 26             | 2.1%           | 9           | 9            | 8         | 1               |
| 1953   | 1352             | 32             | 2.4%           | 13          | 5            | 14        | 0               |
| 1954   | 1377             | 35             | 2.5%           | 14          | 2            | 19        | 0               |
| Totals | 6304             | 167            | 2.6%           | 57          | 29           | 81        | 3               |

The rates and distribution of the deaths are presented in table 1. In a previous report,<sup>3</sup> the rate was 3.21 per cent from the opening of the hospital on August 1, 1947, through March 31, 1949. Therefore the death trend is sufficiently downward that a reduction of approximately 1 per cent from 1950 to 1954 may be considered significant. The maternal deaths are listed to emphasize

that they have been too infrequent to have any appreciable influence on the infant losses. These figures include all births following pregnancies of more than 20 weeks duration. The only error which may have crept into them would be the counting of a very early premature death as a late abortion or the misfiling of a chart in the hospital record room.

Table 2  
COMPARISON OF VAGINAL DELIVERY AND CESAREAN INFANT DEATHS

| Year   | Total Sections | Section Rate | Section Deaths | Section Death Rate | Vaginal Deliveries | Vaginal Delivery Deaths | Vaginal Delivery Death Rate |
|--------|----------------|--------------|----------------|--------------------|--------------------|-------------------------|-----------------------------|
| 1950   | 54             | 4.8%         | 3              | 5.6%               | 1072               | 37                      | 3.4%                        |
| 1951   | 80             | 6.5%         | 3              | 3.7%               | 1159               | 31                      | 2.7%                        |
| 1952   | 82             | 6.8%         | 5              | 6.1%               | 1128               | 21                      | 1.9%                        |
| 1953   | 85             | 6.3%         | 4              | 4.7%               | 1267               | 28                      | 2.2%                        |
| 1954   | 58             | 4.2%         | 1              | 1.7%               | 1319               | 34                      | 2.6%                        |
| Totals | 359            | 5.7%         | 16             | 4.5%               | 5945               | 151                     | 2.5%                        |

Table 2 shows a comparison of infant deaths associated with vaginal and cesarean delivery. This phase of the subject always commands interest and discussion. Physicians frequently ask themselves if a live birth would have resulted if a cesarean had

been done. Certainly the operation is popular enough with the patients. As a general rule, the procedure should be performed for maternal indications. What is good for the mother is usually best for the infant. Exceptions exist which are not pertinent to



this discussion. It is interesting that the cesarean infant mortality rate fell when the incidence was reduced below 5 per cent. The highest rate was accompanied by the

greatest infant loss. Hospital accreditation figures give 5-6 per cent as the highest acceptable cesarean incidence.

Table 3

| Year   | Total Deaths | INCIDENCE OF PREMATURITY      |   |                            |                                  |
|--------|--------------|-------------------------------|---|----------------------------|----------------------------------|
|        |              | Per Cent of Premature Infants | Less than 32 Weeks or Less than 2 lbs. "Previa Group" | 32-36 Weeks or 2 to 3 lbs. | 37-38-Weeks or 3 to 5 lbs. 7 oz. |
| 1950   | 40           | 50%                           | 7   | 7                          | 6                                |
| 1951   | 34           | 44%                           | 3   | 9                          | 3                                |
| 1952   | 26           | 76%                           | 10  | 7                          | 3                                |
| 1953   | 32           | 44%                           | 4   | 4                          | 6                                |
| 1954   | 35           | 57%                           | 10  | 3                          | 7                                |
| Totals | 167          | 53%                           | 34 (20%)  | 30 (18%)                   | 25 (15%)                         |

The figures in table 3 reveal that prematurity is the most frequent single finding in any prenatal death study. The rate is fairly constant except for 1952. Twenty per cent of all the infant deaths occurred in indi-

viduals whose weight was less than the usually accepted minimum standard for survival. Finding measures to prevent labor at such an early date in pregnancy constitutes a real challenge to the obstetrician.

Table 4

| Type of Complications                    | SIGNIFICANT MATERNAL COMPLICATIONS |      |      |      |      |
|--|------------------------------------|------|------|------|------|
|  | 1950                               | 1951 | 1952 | 1953 | 1954 |
| Fever of undetermined origin             | 1                                  | 0    | 1    | 0    | 0    |
| Complete premature separation placenta   | 0                                  | 2    | 2    | 0    | 2    |
| Partial premature separation placenta    | 5                                  | 3    | 5    | 3    | 4    |
| Toxemia and/or hypertension in pregnancy | 2                                  | 6    | 3    | 3    | 2    |
| Severe anemia (below 9 Gm. Hgb.)         | 1                                  | 3    | 1    | 0    | 0    |
| Congestive heart failure                 | 1                                  | 0    | 0    | 0    | 0    |
| Acute urinary infection (febrile)        | 1                                  | 1    | 0    | 2    | 3    |
| Acute respiratory infection (febrile)    | 1                                  | 0    | 0    | 2    | 1    |
| Spontaneous premature rupture membranes  | 2                                  | 0    | 1    | 0    | 3    |
| Placenta praevia                         | 1                                  | 0    | 0    | 0    | 0    |
| Diabetes mellitus                        | 0                                  | 2    | 0    | 0    | 0    |
| Acute hydramnios of unknown etiology     | 0                                  | 0    | 1    | 2    | 1    |
| Rh incompatibility                       | 0                                  | 2    | 1    | 3    | 2    |
| Rupture of uterus                        | 0                                  | 0    | 0    | 1    | 0    |
| Carcinoid of appendix                    | 0                                  | 0    | 0    | 1    | 0    |
| Gangrenous cholecystitis                 | 0                                  | 0    | 0    | 1    | 0    |
| Acute intestinal obstruction             | 0                                  | 0    | 0    | 1    | 0    |
| Totals for each year                     | 15                                 | 19   | 15   | 19   | 18   |

Some of the complications of pregnancy which may lead to premature labor are listed in table 4. It is surprising that the total number of these remained almost the same during all the years of the study. Almost half of the mothers developed some abnor-

malities which might have contributed to the infant's death. Some of these maternal complications were preventable; the answer to others awaits a better understanding of the involved disease process.

Table 5

| MOST IMPORTANT CLINICAL CAUSES OF DEATH |                         |                          |                    |                    |                    |                    |                    |
|---|-------------------------|--------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| <i>Clinical Cause of Death</i>          | <i>Five Year Totals</i> | <i>Per Cent of Total</i> | <i>1950 Deaths</i> | <i>1951 Deaths</i> | <i>1952 Deaths</i> | <i>1953 Deaths</i> | <i>1954 Deaths</i> |
| Atelectasis                             | 16                      | 9.6                      | 7                  | 0                  | 2                  | 2                  | 5                  |
| Pneumonia                               | 4                       | 2.4                      | 4                  | 0                  | 0                  | 0                  | 0                  |
| Congenital anomaly                      | 21                      | 12.5                     | 6                  | 5                  | 2                  | 4                  | 4                  |
| Prematurity (2 to 5 lbs. 7 oz.)         | 15                      | 9.0                      | 3                  | 5                  | 3                  | 2                  | 2                  |
| Previa (less than 2 lbs.)               | 29                      | 17.3                     | 7                  | 3                  | 7                  | 3                  | 9                  |
| Intracranial hemorrhage                 | 10                      | 6.0                      | 2                  | 4                  | 1                  | 1                  | 2                  |
| Prolapsed cord                          | 3                       | 1.8                      | 1                  | 1                  | 0                  | 1                  | 0                  |
| Erythroblastosis                        | 6                       | 3.6                      | 0                  | 2                  | 1                  | 1                  | 2                  |
| Birth trauma                            | 12                      | 7.2                      | 4                  | 2                  | 1                  | 1                  | 4                  |
| Premature sep. of placenta              | 12                      | 7.2                      | 0                  | 5                  | 5                  | 2                  | 0                  |
| Rupture of uterus                       | 1                       | .6                       | 0                  | 0                  | 0                  | 1                  | 0                  |
| Hemorrhagic disease, type unknown       | 1                       | .6                       | 0                  | 0                  | 0                  | 1                  | 0                  |
| Cord around neck                        | 1                       | .6                       | 0                  | 0                  | 0                  | 1                  | 0                  |
| Cause unknown                           | 36                      | 21.6                     | 6                  | 7                  | 4                  | 12                 | 7                  |
| Totals                                  | 167                     | 100.0                    | 40                 | 34                 | 26                 | 32                 | 35                 |

In table 5 are listed the impressions of the single, most important cause of death. Clinical impressions of newborn deaths are subject to many errors and are of value mainly for comparison with anatomical diagnoses made at autopsy. The reliability of these figures is suggested by the 13 per cent due to congenital anomalies which compares closely with the figures in other reports on prenatal deaths. This is one cause which will not vary with the type of obstetric and pediatric care. Prematurity was not

listed as the cause of death if any other significant factor was present. In five of the "pre-viable" group, other conditions were considered the most important. Could the absence of pneumonia as a cause be due to improved use of antibiotics? The number in which no cause was suggested by clinical examination is similar to other reports in the literature, although this percentage may be greatly reduced by increasing autopsy figures.

Table 6  
VALUE OF AUTOPSY IN DIAGNOSIS OF NEWBORN DEATHS

| Year         | Per Cent Clinical Diagnosis | Autopsy Diagnosis   |
|--------------|-----------------------------|---|
| 1950         |                             |   |
| 4 autopsies  | 10%                         | 1. Pneumonia  |
| 40 deaths    |                             | 2. Congenital heart   |
| 1951         |                             |   |
| 7 autopsies  | 20%                         | 1. Congenital heart   |
| 34 deaths    |                             | 2. Internal hydrocephalus   |
|              |                             | 3. Intracranial hemorrhage  |
|              |                             | 4. Congenital heart   |
| 1952         |                             |   |
| 11 autopsies | 42%                         | 1. Hydrothorax and generalized anasarca, of undetermined etiology |
| 1953         |                             |   |
|              |                             | 1. Atelectasis  |
|              |                             | 2. Anomaly of cord  |
| 16 autopsies | 50%                         | 3. Intracranial hemorrhage  |
| 32 deaths    |                             | 4. Erythroblastosis   |
|              |                             | 5. Congenital thrombocytopenia                                    |
|              |                             | 6. Hemorrhage of lung   |
|              |                             | 7. Congenital cystic disease of kidneys                           |
|              |                             | 8. Generalized anasarca of undetermined etiology                  |
| 1954         |                             |   |
| 20 autopsies | 57%                         | 1. Intracranial hemorrhage  |
| 35 deaths    |                             | 2. Congenital heart   |
|              |                             | 3. Hyaline membrane disease                                       |
|              |                             | 4. Atelectasis  |

Table 6 lists the cases in which the autopsy explained the cause of the infant's death. Our goal should be 100 per cent autopsies for prenatal deaths. There is nothing else

available which could do so much to improve the physician's ability to properly diagnose the illness in the newborn. The result will be a lowered death rate.

Table 7  
CAUSES OF DEATH FOUND AT AUTOPSY

| Autopsy Diagnosis                | Five Year Totals | 1950 | 1951 | 1952 | 1953 | 1954 |
|----------------------------------|------------------|------|------|------|------|------|
| Atelectasis                      | 3                | 0    | 0    | 0    | 2    | 1    |
| Pneumonia                        | 1                | 1    | 0    | 0    | 0    | 0    |
| Congenital anomaly               | 20               | 3    | 5    | 3    | 5    | 4    |
| Prematurity                      | 2                | 0    | 0    | 0    | 1    | 1    |
| Previability                     | 13               | 0    | 0    | 5    | 1    | 7    |
| Intracranial hemorrhage          | 4                | 0    | 1    | 0    | 2    | 1    |
| Erythroblastosis                 | 1                | 1    | 0    | 0    | 3    | 1    |
| Birth trauma                     | 2                | 0    | 0    | 1    | 0    | 1    |
| Premature separation of placenta | 3                | 0    | 1    | 2    | 0    | 0    |
| Cord around neck                 | 1                | 0    | 0    | 0    | 1    | 0    |
| Hyaline membrane disease         | 1                | 0    | 0    | 0    | 0    | 1    |
| Unknown                          | 4                | 0    | 0    | 0    | 1    | 3    |
| Total Autopsies                  | 58               | 4    | 7    | 11   | 16   | 20   |

The major autopsy diagnoses are listed in table 7. Hyaline membrane disease has not been found as frequently as it has in other reports. (All of these examinations were

done by a qualified pathologist.) The unknowns in this table are in the macerated stillborn group which perplexes clinicians and pathologists.

**Table 8**  
MANAGEMENT OF DELIVERY AS A CONTRIBUTING CAUSE

| Year | Anesthesia   | Birth Trauma   | Cesarean Factor  |
|------|--|--|--|
| 1950 | (1) 4 lb. 6 oz. infant, Ether<br>(Nurse anesthetist)<br>(2) 2 lb. 1 oz. infant, Ether<br>(Nurse anesthetist) | (2) Version and extraction<br>(1) Difficult forceps<br>(1) Shoulder dystocia | (1) Multipara, breech, 3 lb. 7 oz.<br>infant   |
| 1951 | (1) 3 lb. infant, Ether<br>(Nurse anesthetist)   | (1) Version and extraction<br>(1) Shoulder dystocia                          | (1) Multipara, slight prem. sep.<br>placenta, 6 lb. infant<br>(1) Multipara, history of difficult<br>delivery<br>O |
| 1952 | (1) 2 lb. 1 oz. infant, Ether<br>(Nurse anesthetist)   | (1) Shoulder dystocia  |  |
| 1953 | (1) 4 lb. 4 oz. infant, Ether  | (1) Breech extraction  | (1) Multipara, slight premature<br>separation placenta, 5 lb. 3 oz.<br>infant<br>O                                 |
| 1954 | (1) 3 lb. infant, Ether<br>(Nurse anesthetist)   | (1) Version and extraction<br>(1) Breech extraction<br>(2) Difficult forceps |  |

In table 8 are listed instances in which the management of the delivery might be a factor in the infant's death. Many times this is very equivocal and most difficult to evaluate. Some of these were the author's patients; others were found in the review of the "cold charts" and could have been improperly interpreted. The cesarean factor must be considered when that operation is done for border-line or doubtful indications. On the other hand, cesarean section could save some of the infants who die after a difficult vaginal delivery. The management of the breech presentation may be most difficult. The bony and soft tissues may cause dystocia for the large infant. A poorly dilated cervix may trap the head of the premature baby.

premature infants are being salvaged in greater numbers. Since prematurity is still as frequent as ever, the previable group make up a greater percentage of the losses. How to prevent labor between the fifth and seventh months of pregnancy is one of the obstetrician's unsolved problems and needs more study before the answer can be found.

#### Summary

1. A five year analysis of newborn deaths has been presented.
2. Factors which influence the mortality rate have been discussed.
3. A downward trend in infant loss has been found.
4. The importance of periodic surveys of prenatal mortality rates should be stressed.

Thanks are due Dr. Elgin Kintner for assistance in preparation of the manuscript.

**Table 9**  
MORTALITY TRENDS

| Total Newborn Loss                     | 1950<br>and 1951 | 1953<br>and 1954 |
|--|------------------|------------------|
| Cesarean infant loss                   | 3.1%             | 2.5%             |
| Birth trauma                           | 6 cases          | 5 cases          |
| Premature infants                      | 47.3%            | 51%              |
| Previable infants                      | 15%              | 21%              |
| Two to three pound infants             | 22%              | 10%              |
| Three to five lb. seven oz.<br>infants | 12%              | 19%              |
| Autopsy rate                           | 15%              | 54%              |

The figures in table 9 show certain possible trends which may be significant. The infant loss has been reduced. The smallest

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## STAFF CONFERENCE

### University of Tennessee Surgical Conference\*

#### Occlusive Disease of Large Arteries

DR. HARWELL WILSON: Gentlemen, the cases to be considered this morning illustrate advances which have been made within recent years in the surgical treatment of arteriosclerotic occlusive disease of the larger arteries. The first case to be presented is that of a patient suffering from Leriche's syndrome, arteriosclerotic occlusive disease of the aorta at the bifurcation. Dr. Neely, will you give the history and the findings in this case please.

DR. WILLIAM NEELY: Mrs. G. B. is a white woman, 56 years old, who entered the Baptist Hospital because of severe intermittent claudication.

*Present Illness:* Two years ago the patient noted onset of pain in the calves of the legs and thighs upon walking. This was relieved by rest. Discomfort became progressively worse and she was seen by a physician approximately three months before admission, at which time intra-arterial Priscoline was administered and also thiamine hydrochloride. The patient stated that she obtained marked relief from this but that the symptoms recurred and she consulted another physician at which time a lumbar sympathectomy was recommended. The patient did not heed this advice and later was admitted to the hospital on the service of Dr. Harwell Wilson. At the time of admission the patient was unable to walk across the room because of severe pain in the legs.

Family history and social history are noncontributory.

*Past History:* Patient states that she has always been in good health except for growing pains and malaria as a child.

*Physician Examination:* Blood pressure was 145/85. General appearance was that of a well-developed, slightly obese white female in no distress. The liver was down two finger breadths. No dorsalis pedis pulse was palpable and no femoral or popliteal pulse was palpable in either extremity. It was also noted that the right foot was slightly cooler than the left. Oscillometric readings done on both extremities revealed zero oscillation.

DR. HARWELL WILSON: As has been pointed out in the history and from the

physical findings this patient had no demonstrable pulse in either leg. It was also apparent that this patient was in marked distress when she walked more than ten or twelve steps. The possibility of carrying out a bilateral lumbar sympathectomy was considered; however, it was felt best to do an aortogram and this was carried out under general anesthesia by injecting 30 cc. of 70 per cent Diodrast. The aortogram clearly demonstrated the occlusive process in the lower aorta which began about one and a half inches below the renal arteries, involving the bifurcation and both common iliac vessels. (Fig. 1.) This, therefore, ap-



FIG. 1. Aortogram demonstrating occlusion of abdominal aorta.

peared to be a case suitable for treatment by resection and replacement of the abdominal aorta and upper iliac vessels with an aortic bifurcation homograft.

Accordingly, operation was advised and accepted. Through an incision which extended from the xiphoid process to the symphysis pubis the abdomen was opened, the peritoneum was incised over the aorta and over the iliac vessels. It was necessary to free Treitz' ligament in order to displace the duodenum to the right so that the upper portion of the aorta might be exposed. It was apparent at this time that the aorta and the upper iliac vessels were filled with thrombus. (Fig. 2.) After catheters had been passed as occluding instruments about

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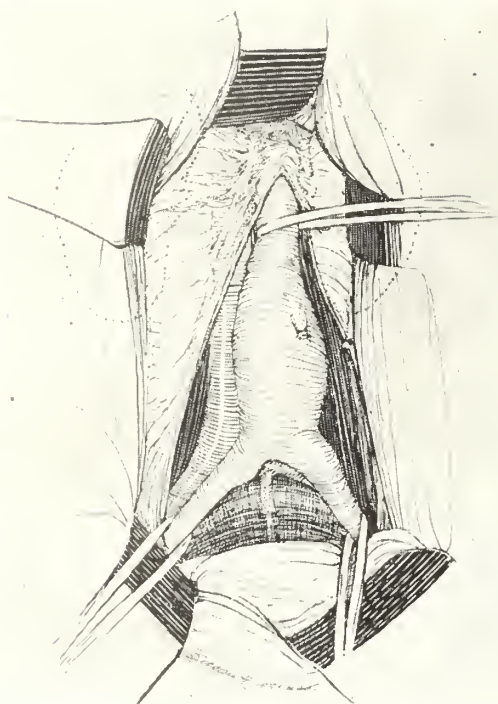


FIG. 2. Appearance of thrombosed aorta as seen in the operating room.

the upper aorta and about each iliac, the iliac vessels were cut across as was the aorta. (Fig. 3.) Some additional clot was



FIG. 3. Specimen of distal abdominal aorta, including the bifurcation, which was resected. Specimen filled with thrombus.

removed by performing a modified type of endarterectomy on each iliac vessel and also on the upper portion of the aorta. Following this a bifurcation homograft was used to bridge the defect. It might also be mentioned that before the graft was sutured in place there was free bleeding from each iliac vessel and from the aorta above. I think that it would be only fair to state that for a few minutes immediately after the graft had been sutured in place there was some bleeding at the suture line. However, this was controlled without difficulty. Dr. Hardy, I think I have presented this rather briefly. Perhaps you would like to add to the technical details which we carried out in this procedure.

DR. JAMES HARDY: Perhaps there is one point which might be somewhat further emphasized. A considerable portion of the upper aorta was freed for handling by virtue of the fact that the thrombus was cored out as Dr. Wilson mentioned previously. In other words, had the aorta been divided precisely at the upper end of the clot, the clamp would have had to have been moved virtually on top of the renal arteries or even above them to permit the exposure of a sufficient length of aorta to which the graft could be sutured. This is a very important point. It is surprising how easily this clot can be removed by slipping a small instrument such as a tonsil dissector between the media and the intima or some suitable place which can be rather readily identified on inspection. One other point of some help was the fact that the posterior row of sutures, or rather the continuous suture posteriorly, was placed by retracting the graft upward and so exposing the proximal segment and the distal graft posteriorly. This went very nicely and it obviated the difficulty of suturing within the two vessels while putting in the posterior row.

Some Heparin, a very small amount, was injected into the distal arteries with the intention of preventing clotting. We do not know that this is absolutely essential, but it appeared to be an advisable step. I believe that, otherwise, the suturing technique followed standard lines and I have no further comment.

DR. HARWELL WILSON: Dr. Bramlitt, are there any other points with reference to the technical procedure which was carried out in the operating room which you would like to mention?

DR. E. E. BRAMLITT: There are only two points that I can think of that should possibly be mentioned at this time. One of these is that when the graft is placed into position it is desirable to have the dorsal surface of the graft actually placed on the ventral side so that the lumbar vessels will be in open view and may be ligated if necessary. Also, it is desirable to release the lower clamp first when circulation is re-established in order that the pressure upon the graft will be minimal during the time of testing the anastomotic sites.



DR. STEPHEN PRIDGEN: The question is often raised as to the ultimate fate of this graft as regards future thrombosis at the site of grafting and the possibility of a rupture at the site of anastomosis. Dr. Wilson, would you tell us your opinion in regard to this problem?

DR. HARWELL WILSON: Dr. Pridgen, I do not believe we know the final answer to the question as to what the fate of these grafts will be. It appears, however, that these grafts simply act as prostheses, are inert and eventually are replaced by fibrous tissue from the host. Certainly some of these grafts have later ruptured, according to reports, and some have undergone calcification.

DR. FRANK C. WILSON: Reports in the literature indicate that these grafts have functioned successfully for as long as eight years and are still going. As to the cause of thrombosis, it is thought that obstruction in the artery distal to the graft is the major cause. If this does not exist, then the probability of the graft surviving for many years is good.

DR. DAVID DUNAVANT: I think we should also mention that thrombo-endarterectomy has been used successfully to restore a normal circulation in this type of patient. Dr. Wilson mentioned that a partial endarterectomy was performed both on the aorta and iliacs in this patient to make the placing of the graft more feasible. Plaques and thrombi have been removed from the renal and superior mesenteric arteries successfully, as well as from the abdominal aorta and iliac vessels. Although this procedure has a relatively low morbidity and mortality rate and the immediate results have been good, we will have to wait a few years to determine the final results of this procedure.

DR. HARWELL WILSON: There is always the possibility of thrombosis as well as of possible rupture after this procedure.

DR. PRIDGEN: Poth and his co-workers feel that some of the plastic prostheses give a very satisfactory result. The plastic prostheses recommended are of the Nylon and orlon type materials. It will be interesting to observe the ultimate fate of the synthetic materials used.

DR. HARWELL WILSON: Dr. Neely, suppose you tell us about the patient's condition at the time of leaving the hospital.

DR. NEELY: At the time of discharge from the hospital the patient was able to walk some several blocks without any pain. Also, dorsalis pedis pulses were palpable bilaterally as, of course, were the femoral pulses.

DR. HARWELL WILSON: The second patient to be presented represents for us a unique clinical experience. Dr. Frank Wilson, will you give us the history and findings in the second patient?

DR. FRANK WILSON: This is the case of a 64-year-old colored female who was first admitted to the John Gaston Hospital with severe claudication in the right leg for one month. She was unable to walk more than a very few feet without severe pain. The pain was first noticed in the thigh and progressed to involve the entire lower extremity. Physical examination at this time revealed a blood pressure of 240/100. The right foot was cooler than the left. There were no skin changes and no palpable pulses in the right extremity. There was a palpable femoral and popliteal pulse on the left side. The patient was a known diabetic.

*Past History:* Patient stated she had a carcinoma of the cervix treated four years previously by irradiation and a cerebrovascular accident two years previously with no residual at the present time. The patient had a right lumbar sympathectomy performed previous to this admission because of the circulatory deficit in the extremity. She had dramatic relief of pain, was able to walk around the ward without difficulty, and was discharged on the sixth postoperative day after the sympathectomy.

She was seen in the Out-Patient Department three months later complaining of pain in the right foot, and approximately four months later she developed an ulcer on the right little toe. The patient was admitted to the John Gaston Hospital again with severe pain in the right foot.

*Physical Examination:* Inflammatory changes of the lateral and distal half of the foot with ulceration between the fourth and fifth toes were present. Her blood pressure was 230/90. Other findings in the leg were as before. There were absent femoral, popliteal, and dorsalis pedis pulses on the right with present femoral and popliteal pulses on the left. A pulsation was palpable in the right iliac artery, and because of this an aortogram was done on January 10, 1955, revealing patency of the external iliac artery to about the level of the inguinal ligament. The left iliac and left femoral were normal. During her hospital stay she developed dry gangrene of the fourth and fifth toes on the right foot. She required morphine for relief of rest pain during this time.



DR. HARWELL WILSON: Dr. Frank Wilson has given us a good review of the long hospital history given by this diabetic patient. Several of us on the staff had seen this patient repeatedly in consultation and it was our feeling frankly that this patient would require an amputation either just above the knee or at the mid-thigh level. We realized, however, that if the circulation was blocked in only a given segment that a graft might offer this patient marked improvement. Dr. Guice, our Chief Resident, operated upon this patient and his findings, as well as the results obtained, are most interesting. Dr. Guice, will you describe the findings at operation and tell exactly what you did in the operating room?

DR. CHARLES GUICE: This patient was operated using continuous spinal anesthesia. A vertical incision was made over the upper femoral artery extending the incision up on to the abdominal wall. It was necessary to sever the inguinal ligament. The femoral artery and lower external iliac artery were exposed and it was discovered that the femoral artery was patent and collapsible below the apparent obstruction at the level of the inguinal ligament. Above this point the iliac artery showed normal pulsation and apparently was not sclerotic. There was an area of obstruction that measured approximately one and a half inches in length. This obstruction was complete and after resection proved to be a combination of arteriosclerosis and thrombosis. The artery was mobilized both above and below. Catheters were placed around the vessel both above and below to control bleeding during resection of this segment of the vessel. Resection was done removing this obstructing segment and a homologous arterial graft was placed between the free ends of the severed vessel. (Figs. 4 and 5.) After the insertion of the graft pulsation was present below the graft and the wound was closed. Postoperatively the gangrenous toes demarcated and it was necessary to do a transmetatarsal amputation of the third, fourth, and fifth toes of the right foot. Within several days after the operative procedure a popliteal pulse was palpable. Upon discharge from the hospital, the wound on the foot was almost completely healed, and at the present time the patient's



FIG. 4. Photograph showing arterial graft used to replace segment of distal iliac and proximal femoral artery.

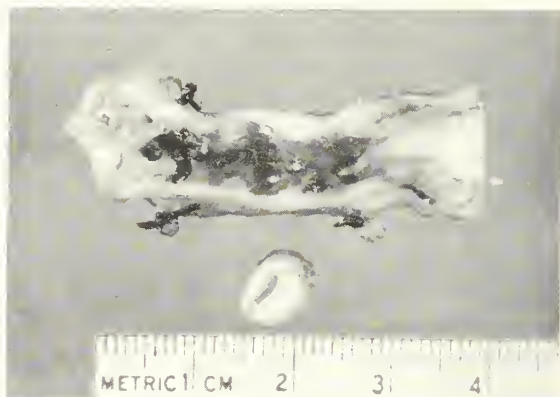


FIG. 5. Thrombosed ileofemoral segment resected.

foot is healed and the patient is experiencing no pain or other evidence of vascular insufficiency.

DR. HARWELL WILSON: This patient has been definitely benefited by the procedure although I believe all of us anticipated that this individual would require amputation, as I mentioned earlier. I would like to request Dr. Frank Wilson and Dr. Bramlitt, the other two residents who participated in this operation, if they have any further comments regarding this case.

DR. FRANK WILSON: This was certainly a unique case and it was a surprise to find that there was not more distal involvement by the thrombotic process. Certainly there was no way to tell preoperatively and only at exploration could this be demonstrated. Certainly in other people's experience the presence of gangrene or diabetes has been a contraindication for exploration. However, this patient obviously benefited from the operation.

DR. NEELY: It is too bad that the results expected from segmental resection of arteries are inversely proportional to the size of the artery in that long term results, when anastomoses have been done in small arteries, have not been very good. In the

larger arteries, however, long term results are usually better.

DR. HARWELL WILSON: Dr. Hardy, do you have any comments?

DR. HARDY: If I were to make a comment, it would be that this case has certainly opened the eyes of our staff regarding the possibilities which may be in store in the field of vascular surgery. It has certainly meant to me that we can expect advances which are limited only by the imagination of the operators in the future and it is quite possible that legs which were previously amputated above the knee routinely in the presence of a gangrenous toe may now be, in considerable measure, salvaged.

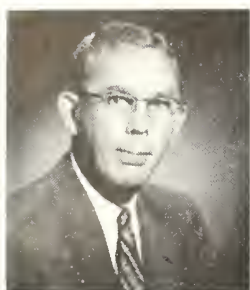
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**Congenital Malformations of the Cardiovascular System in a Series of 6,053 Infants. Mary R. Richards, M.D., Katherine K. Merritt, M.D., Mary H. Samuels, M.D., and Alfred G. Langmann, M.D., *Pediatrics* 15:12, 1955.**

This report is based upon material accumulated during a 6½ year comprehensive study of the products of gestation of 5,964 pregnancies at the Columbia-Presbyterian Medical Center in New York. Over 95% of the live born infants received follow-up evaluations by a special study team. Of the 5,739 deliveries in which the fetus weighed over 500 Gm., 7.5% had congenital malformations, the rate being higher for males, non-white infants and those weighing less than 5½ pounds. Only 43.2% of the malformations could be recognized at birth and 18.1% could not be detected until one year after birth. The incidence of cardiovascular malformations was 0.83% varying from 7.7% in infants who were either stillborn or died within the first month, to 0.6% in infants who

survived for more than one month. The risk of having an infant with congenital heart disease was somewhat greater in the third pregnancy than in the first, especially in women over thirty. No causative effect from maternal infections was noted except for a suggestive bit of evidence that herpes simplex in the first three months may be related to the Tetralogy of the Fallot. The most common anomaly was defects of the auricular and ventricular septa, followed by Tetralogy of Fallot. Associated malformations involving systems other than the cardiovascular system occurred in 36% and organs derived from embryonic ectoderm were most frequent affected. None of the patients subsequently proved to have a patent ductus arteriosus had a cardiac murmur within the first week of life. Routine roentgenogram of the chest was not a reliable screening procedure to rule out congenital heart disease. (Abstracted for Middle Tennessee Heart Association by H. D. Riley, Jr., M.D., Nashville, Tenn.)

## President's Letter



DR. TRABUE

How wonderful it would be if Doctors of Medicine could devote all of their productive efforts to the study and practice of Medicine! Until relatively recent years such was largely the case. But in the past two decades the doctors of this country have been under a constant threat of losing their right to practice medicine with freedom. We still have that right today only because we have had valiant and vigilant leadership and have all worked together in a united effort to defeat the forces of Socialism that have threatened our freedom. If we are weary of the fight we must remember that our opponents are not. Many of the elected leaders of our country seem to feel that in order to hold onto their office they must constantly advocate more and more of something for nothing.

It is difficult to put any other interpretation on the recent action of the House Ways and Means Committee in their handling of H.R. 7225, which is a bill liberalizing the social security act, including the establishment of cash payments for disability. This bill was drafted and passed by the Committee behind closed doors and with no public hearings. It then passed the House of Representatives by the whopping majority of 372 to 31 under a parliamentary procedure barring amendments and limiting debate to forty minutes. This cursory and disgrace-

ful treatment of legislation of such great importance is no credit to our Congress. The bill will almost certainly be considered by the Senate early in 1956.

There is not sufficient space on this page to explain why the bill is of such great significance to the medical profession and what far reaching effects its passage would have on the practice of medicine. The reader is referred to the July 23 issue of the J.A.M.A., pages 1032, 1036 and 1133 for clarification of this subject. To stimulate your interest I would like to quote from a special statement issued by the Board of Trustees of the American Medical Association: "The distance between our present medical freedom and complete government regimentation has narrowed considerably. The remaining gap will be closed completely unless physicians throughout the nation take constructive action to educate themselves, the public and their congressmen and senators during the next few months."

It seems obvious that we have no choice but to gird up our loins and get back into the fray. There are strong forces pushing for the passage of this type of legislation and they cannot be defeated by apathy on our part.

Incidentally, the Chairman of the House Ways and Means Committee is Representative Jere Cooper of Tennessee!

A handwritten signature in dark ink, appearing to read "D. S. Trabue".



# THE JOURNAL

OF THE  
TENNESSEE STATE MEDICAL ASSOCIATION

Published Monthly

Devoted to the Interests of the Medical Profession of  
Tennessee

Office of Publication, 321-325 Doctors Building, Nashville,  
Tenn.

Acceptance for mailing at special rate of postage provided  
for in Section 1103, Act of October 3, 1917,  
authorized July 15, 1932.

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AUGUST, 1955

## EDITORIAL

### NEW INSULINS

In 1921, Banting, Best and McLeod announced the extraction of a substance from pancreatic tissue which when injected into a rabbit fasted for twenty-four hours, would produce a marked fall in the blood sugar, and often convulsions. To this substance they gave the name of Iletin, since it was evident that it was obtained from the islet tissue of the pancreas. Later this extract was given the name of insulin.

During the past thirty-four years the hormone, now greatly improved in purity and readily available everywhere, has become a part of the practice of medicine and its value to the millions of diabetics whose lives it has preserved, improved or prolonged, cannot be adequately estimated.

The chief criticisms of the product were the necessity of giving it by hypodermic injection and the fact that its action was completed in about four hours. The former

objection still exists but the latter, by and large, has been removed. As a matter of fact there is now confusion because there is such a wide variety of long-acting insulins from which a choice can be made. Protamine insulin, the first successful modified insulin, was soon replaced by the more stable Protamine-Zinc insulin,<sup>1</sup> which remains today as the most popular and probably the most useful of the modified insulins.

Other modifications of insulin have been developed. The globin fraction of hemoglobin in combination with insulin has resulted in a useful preparation, globin-insulin. This type of insulin, by virtue of the less intense and less prolonged activity, has its greatest value in the patient who suffers unduly from nocturnal hypoglycemia.

Insulin mixtures, usually two parts of unmodified to one part of protamine-zinc insulin, produce a very workable insulin. This mixture can be substituted quite satisfactorily by NPH-50 (neutral in reaction; protamine-zinc insulin, 0.50 mg. per 100 units of insulin; Hagedorn). Finally insulin Lente, semi-Lente and ultra-Lente the latest additions to the modified insulin group, act similarly to NPH, but because of their altered chemical characters (amorphous precipitate due to use of sodium acetate buffer) and the fact that the solution contains no protein other than the insulin itself, allergy to the Lente preparations has not been demonstrated.<sup>2</sup>

Amorphous insulin and solutions of zinc insulin crystals are also free of the disadvantage of the factor of allergic reactions. These two preparations, however, act essentially as plain or unmodified insulin from the viewpoints of intensity and duration of activity.

Under the circumstances it seems to be good judgment for the average practitioner of medicine to be deliberate in changing too quickly from one type of modified insulin to another, particularly if good regulation of his patient exists.

A. W.

<sup>1</sup>Scott, D. A., and Fisher, A. M.: The Effect of Zinc Salts on the Action of Insulin, J. Pharm. & Exper. Therap. 55:206, 1935.

<sup>2</sup>Peck, F. B., Kirtley, W. R., Dyke, R. W., and Ernst, C. E.: Present Status of Insulin-Zinc Suspensions, Diabetes 3:261, 1954.

## HOSPITALIZATION FOR THE INDIGENT

In 1950, one of the Public Service objectives of the Tennessee State Medical Association was directed to provide hospitalization for the indigent of the State. The historical events which led to the present partial fulfillment of the initial objective are summarized in the Special Item which follows this editorial comment.

When the proposed legislation was drawn up, the House of Delegates debated it and approved it in its amended form by a large majority. The several steps in the progress of this forward-looking activity of the Association have been reported and commented upon in the JOURNAL from time to time in the past several years.

Many physicians played their part in informing their legislator friends of the objectives of the bill which led to its passage in the 1953 session of the Legislature. Again advice and aid was given by doctors at the time of the 1955 Session. Though the amount of money requested to get the program under way was not appropriated, enough was forthcoming to make a start. Physicians could "lobby" for this bill without any embarrassment. Their requests contained not one iota of selfishness for the bill states specifically that the medical profession will give its services gratis to those hospitalized under the Indigent Hospitalization Act.

But as is the doctor's life,—he is never done,—his responsibilities go on. The implementation of this legislature in the home community requires the support of the doctors there. In many counties the officers of the local medical society have prodded its County Court into speedy action—to request funds, and to set up machinery to get action. Physicians in such counties have shown willingness to serve on the screening committee.

By June 30, of this year, all but 25 counties had authorized participation in the program. These 25 counties contain only 12 per cent of the population of the State. Though most of them represent counties with small populations and limited tax funds, there are some populous ones which are also well to do. Therefore there may still be some prodding to be done. The counties which have so far not taken action

in the hospitalization of their indigent are listed in the following pages. The doctors in these counties should see to it that hospitalization for their indigent is provided.

The continuing responsibility of the profession is its representation on the Screening Committees of the several counties. No one is better fitted to recognize the need or lack of urgency, as the case may be, for hospitalization. The doctor may well be the only one to appreciate potential *medical indigency*,—in terms of the cost of hospitalization, professional fees, and disability or time off work in a given case. He only may realize the cost of catastrophic illness to even a self-supporting, stable citizen in the low income bracket. The key place on the Screening Committee thus is the one held by a doctor. Here is a community responsibility the doctors can not and must not shirk.

Sympathetic yet realistic appraisal of the problems of the Screening Committee is your function. When you are called upon to serve, do so as another one of your humanitarian acts, and play a part in the success of a unique experiment fathered by the Tennessee State Medical Association and which is attracting nation-wide attention.

R. H. K.



## Special Item

*The following has been abstracted from a presentation given by Dr. Sharp before the Tennessee Hospital Association.—Editor.*

### Hospital Service for the Indigent\*

W. K. Sharp, Jr., M.D.,† Nashville, Tenn.

In September, 1938, the House of Delegates of the American Medical Association declared "*that the complete medical care of the indigent is the responsibility of the community and the medical and allied professions and that such care should be organized by local governmental units and supported by tax funds.*"

\*Read at the Meeting of the Tennessee Hospital Association, May 19, 1955.

†From the Tennessee Department of Public Health, Nashville, Tenn.

One of the most challenging, most ambitious yet one of the most far reaching programs that has been proposed by any medical association had its inception through the leadership of its Board of Trustees of the Tennessee Medical Association. Late in February, 1951, an agreement was reached in conference with the Governor concerning the following:

1. That there is an acute need for the State of Tennessee to assume some responsibility for the cost of hospitalization, medical care and treatment.
2. The doctors of medicine have agreed with the Governor that they should, without cost to the State of Tennessee, provide professional medical service to such patients.
3. A study should be made of plans to provide for hospitalization, medical care, and treatment for indigent sick persons of Tennessee who are financially unable to pay the cost of hospital care and treatment.

On March 1, 1951, the Legislature of Tennessee authorized a Study Commission on Indigent Hospitalization together with an appropriation of \$10,000.00 to defray necessary expenses for this study. . . .

- a. The cost of providing adequate hospital services.
- b. The best system of payment for such services.

Generally the results of these studies were comparable.

Provision of care for citizens unable to pay for medical care is one of the most common yet one of the most pressing hospital problems today. There is no such thing as free hospital care. Somebody must pay for the maintenance of the many expensive services provided by hospitals. Hospitals have three possible sources of income: Donations, sick patients and tax funds. The present situation in this country today is that the paying sick patient is having to shoulder most of the burden of keeping hospitals open. He is being forced to pay, not only for his own care, but the cost of those who cannot pay, as well as uncollected accounts, vacant beds, maintenance, educational activities of the hospital and the like. . . .

Late in 1952 the Study Commission appointed by the Governor made its report. This report has been published and given wide distribution. It is well worth the time

of any individual who is interested in medical care, hospitals and the welfare of the public in Tennessee to study in detail. . . .

In April, 1953, the General Assembly of Tennessee enacted legislation (Public Chapter 125, House Bill No. 905), and made an appropriation from the General Fund of the State of Tennessee in the amount of Seventy-five Thousand Dollars (\$75,000) for the ensuing biennium to be expended after July 1, 1954, and before June 30, 1955, for a modest beginning in developing a Hospital Service for the Indigent in Tennessee. This program was activated July 1, 1954, as follows: *(The details of the program were discussed at length and approved, before enactment of legislation, by the House of Delegates of the Tennessee State Medical Association at a called meeting on February 8, 1953.—Editor.)*

1. The Commissioner of Public Health of the State of Tennessee notified every County Judge or Chairman of the County Quarterly Court of a specific allotment available to that County under the established formula.
2. Rules and regulations were approved and transmitted to all local Health Officers, all hospitals with ten or more beds, all County Judges, and were published in the September, 1954, issue of the JOURNAL of the Tennessee State Medical Association.

### Hospitals

The hospitals occupy a key position in the success of this program. The report of the Study Commission on Indigent Hospitalization clearly points out:

The availability of hospital care for all Tennesseans whose health can be materially improved by definitive treatment by a physician in a hospital is essential to the general welfare. At the time of the study only a very few cities and counties in the State made anything like adequate provision for this need.

In the State as a whole cities and counties provide \$3,774,991 for this purpose. But seven counties (and the cities within them) provide 94.9 per cent of this money and contain only 41.2 per cent of the total population. Forty-two other counties make some provision, but the average they provide is less than \$0.30 per capita per year. Forty-two counties make no provision whatsoever.

The seven counties which make the most provision for this purpose include the four largest (Shelby, Davidson, Hamilton and Knox) and three smaller counties (Madison, Obion and Cumberland) in which general hospitals have recently been built with the aid of funds through the Hospital Construction Program.



The counties that make no provision and those that make the least provision are those counties that are relatively remote from large cities, small in population and low in per capita taxable wealth.

Since the hospital care of the indigent is not being adequately supported by the communities—city, county and state—in which they live, the general hospitals within the State have had no choice but to absorb this expense.

The general hospitals absorbed the cost of caring for the indigent patients they admitted by high charges to paying patients and by operating at actual financial deficits. In the fiscal year of this study, the general hospitals as a group incurred a financial deficit of approximately \$1,600,000.00.

Therefore every effort must be made for the hospitals, especially those with 10 beds or more, to conduct an intensive educational program with all local groups so as to actually teach the value of good hospital administration, cost, maintenance and general support, also to transmit at least once annually to the State Department of Public Health a statement of Reimbursable Cost or accept \$6.00 in lieu thereof. In August, 1954, every hospital with 10 beds or more was circularized by the Commissioner of Public Health to ascertain if your hospital desired to participate in this program. The Rules and Regulations governing this program were sent with this letter. At present, according to our records, there are about 158 general purpose hospitals in Tennessee with 10 beds or more located in 72 counties. Only 70 hospitals have filed a statement of Reimbursable Cost. The highest per diem cost was \$30.03, the lowest \$9.39 or an average of \$16.75. Is it reasonable to assume that only 70 hospitals are keeping sufficient records to prepare this estimate or are we to assume that only 70 hospitals are interested?

It would seem that herein is an excellent opportunity for your group to improve this situation materially, and do it now! If only 70 general purpose hospitals of a total of 158 are filing Reimbursable Cost and this situation continues to exist, it means one of two things will happen. Either \$6.00 per day will prevail and this group of hospitals will be defeating one of the real purposes of the program in so far as aiding the hospital is concerned, especially since the average per diem cost is \$16.75. Everything else being equal the \$6.00 group will continue to theo-

retically lose \$10.75 per day or they will become discouraged and fail to participate because of the newness of the program, the lack of proper records, bookkeeping, personnel qualified in hospital administration and other reasons.

Every County in Tennessee was given an opportunity to participate in this program through its County Courts. As of May 16, 1955, after almost eleven months' active operation of this program all but 27 of the 95 counties have seen fit to adopt the program. It is anticipated that every County regardless of size or ability to pay will authorize participation by June 30, 1956, especially in view of the fact that the 1955 General Assembly authorized that the appropriation be doubled.

Since this program is administered through existing framework—both State and local—there seems to be no confusion, no duplication of efforts or misunderstanding. The agreement with County authorities, physicians and hospitals is clear. The approach to the problem under this plan is administratively sound, economically within our reach and scientifically wise. Van Buren County with only one physician and no hospital shares and shares alike with Shelby and Davidson with numerous hospitals and physicians.

I bring you greetings from the Commissioner of Health of Tennessee and his staff and congratulate you on your enthusiastic leadership in giving of your time and effort to make this the very top program in this Country.

#### Addendum

##### Summary Report Fiscal Year 1954-55

On June 30, 1955, just one full year of the administration of the Hospital Service for the Indigent program as authorized by Public Acts 125 by the 1953 General Assembly, all but 25 counties have authorized participation. Every County Judge or County Court Chairman in Tennessee was notified of his allotment in accordance with the established formula in the Rules and Regulations governing this program. The necessary forms, instructions, and other material were mailed to every participating county as well as all hospitals with ten beds or more.

The non-participating counties for 1954-55 are as follows: Tipton, Carroll, Lewis, Chester, Trousdale, Henry, Wayne, McNairy, Moore, Rutherford, Putnam, Clay, Overton, Pickett, Meigs, Monroe, Union, Cocke, Claiborne, Hancock, Morgan, Campbell, Jefferson, Grainger and Decatur.

It is believed that some of the 25 counties failed to authorize participation due to the following reasons:

1. The small amount of funds involved.
2. Deferred action until the second year of the program to be sure the Legislature would continue or increase the funds for this program.
3. Unwillingness on the part of some counties to change their traditional method of screening patients. However, these 25 counties only involve about 12 per cent of the population of Tennessee.

It is confidently believed that all counties will authorize participation for the fiscal year ending June 30, 1956, as the general trend and reports as of this date indicate more interest from the counties and generally a most pleasing report from County Judges. If each local Medical Society would authorize a medical committee to explain in detail the philosophy of this program to the County Courts and follow through until a proper Screening Committee has been nominated and the necessary financial arrangements are made the program undoubtedly will be accepted in all counties this year.

Detailed tabulation will appear soon in a departmental special bulletin.

#### **Summary of Essential Points of the Current Rules and Regulations Governing Hospital Service for the Indigent, August 1, 1955**

##### **A. State Health Commissioner**

1. On or before the first day of April each year (Section 9 of the Acts) shall submit to each County Quarterly Court through the County Judge or Chairman an allotment based on the established formula.
2. Reimburse participating Counties (not the hospital) so as to augment and not replace local funds.
3. Provide essential forms for records. (Forms 580 and 581.)
4. Submit to each participating county once annually a list of hospitals that have complied with Regulations 3 and 4.

##### **B. County Courts.** In order to participate must:

1. Authorize funds.
2. Nominate Screening Committee consisting of three persons—one each representing the: (a) Medical profession, (b) County Court, (c) Public.

##### **C. County Fiscal Officers**

1. Follow instructions as outlined in Rules and Regulations.
2. Notify State Health Commissioner immediately the County Court's action in regard to the program—transmitting a copy of the Court's resolution and names of the Screening Committee.
3. Complete in every detail Forms 580 and 581.
4. Reimburse the designated hospital.
5. File with the State Health Commissioner quarterly the completed Forms 580 and 581.

##### **D. Hospitals**

1. Submit to the State Department of Public Health once annually (within thirty days after the close of the Hospital's fiscal year) a statement of reimbursable cost on Joint Hospital Form I, otherwise the State's rate of reimbursement shall not exceed \$6.00 per day.
2. If the County is to receive reimbursement, Form 580 shall be completed and instructions followed. This form is available in the County Judge's office.

## **DEATHS**

**Dr. James Lovell Coffman**, 73, Bolivar, died June 9th at Western State Hospital.

**Dr. Jady Proffitt**, 91, Butler, died June 25th. He had practiced medicine in Johnson and surrounding counties for approximately sixty years.

## **PROGRAMS AND NEWS OF MEDICAL SOCIETIES**

### **Chattanooga-Hamilton County Medical Society**

Dr. Bertram E. Sproffkin of Nashville was the guest speaker at the dinner meeting on July 7th held in the Read House Hotel Ballroom. His paper was entitled "Benign Disorders of Peripheral Nerves."

### **Tri-County Medical Society**

Five Memphis physicians were guests of the Tri-County Medical Society on June 1 where physicians from Tiptonville and Ridgely acted as hosts. Visiting physicians who addressed the group were: Dr. Battle Malone, Dr. Richard Ching, Dr. Mattson Collinson, Dr. Russell Patterson and Dr. Raymond Green.



### Memphis-Shelby County Medical Society

The Memphis-Shelby County Medical Society met on June 7th. The program was as follows: "Acute Poisoning in Childhood," by Dr. William W. Mason, discussion by Dr. Otis Warr; "Aneurysms of the Abdominal Aorta," by Dr. Robert P. McBurney, discussion by Dr. Harwell Wilson; "Rheumatoid Arthritis," by Dr. Thurman Crawford.

### Knoxville Academy of Medicine

At its regular meeting on July 12th, two interesting case reports were given. Dr. William K. Swann reported on "Carcinoma of the Esophagus" and Dr. D. H. Waterman and Dr. Felix Line on "Tracheo-esophageal Fistula." Dr. Perry Huggin presented a paper on the "Changing Picture in Tuberculosis," discussion by Dr. W. B. Farris.

### Roane County Medical Society

The June 28th meeting, held in the Oak Ridge Hospital, consisted of a joint meeting of the Anderson County Bar Association and the Roane County Medical Society. The subject was a "Medico-Legal Symposium."

## NATIONAL NEWS

### Physician Licensing Reaches New High

The number of new physicians added to the Nation's physician population reached a record "high" in 1954, according to figures released by the A.M.A. Council on Medical Education and Hospitals.

Licensing boards licensed 15,029 physicians during 1954, an increase of 595 over 1953. Excluding duplications, the actual total of new license holders reached 7,917. Deducting the 3,667 physician deaths in 1954, there were added 4,250 new physicians since the beginning of the year, or 641 more than were added in 1953. The increase occurred in 31 states. The licenses issued brought to 222,773 the total of licenses granted since 1935.

The failures of candidates to pass license examinations remained low. Only 4.2% of the 5,999 American Medical School graduates failed to get licenses in 1954, and 4.8% of the 126 Canadians failed. Most of the failures occurred among graduates of foreign faculties, schools not approved by the Council, and schools of osteopathy. The total failure rate of 12.7 compares to the previous low of 5.7 in 1930 and the previous high of 21.7 in 1908.

The 15,029 licenses granted included those given on the basis of reciprocity and other qualifications. Licenses by examination actually were given to 6,827, candidates from 73 medical schools in this country and 11 in Canada. The rest were from foreign schools, and unapproved schools and schools of osteopathy. The largest number of new license holders came from: California, 1,975; New York, 1,498; Illinois, Ohio, Pennsylvania, and Texas with over 500 each; Delaware, Idaho, Nevada, North and South Dakota, and Vermont with less than 50 each. The smallest number was 24 in Wyoming. The addition of physicians to the population from the South Central area were 477 (Kentucky, Tennessee, Alabama and Mississippi).

Foreign school graduates, including both American and foreign born persons, took 1,642 examinations in 1954, with 943 of the candidates passing. The actual increase to the physician population was 772, bringing the total of new foreign-trained physicians to 2,784 licensed in the past five years.

### Extension of Doctor Draft

After voting some modifications to make the act apply to fewer special registrants, Congress approved a two year extension of the "Doctor-Draft" act. The extension was strongly opposed by the A.M.A. and the American Dental Association. Its final passage was effected through a legislative strategy that coupled the measure with the regular draft and family allowances and did not permit its consideration on its own merits.

As approved by House and Senate, the law is continued in its present form, except for two changes. The maximum age at which physicians, dentists and veterinarians can be drafted is dropped from the 51st to the 46th birthday, and those past 35 years of age who have at any time applied for a commission as a physician, dentist, or veterinarian in the armed forces and have been rejected for physical reasons alone are no longer subject to the draft.

### Health Legislation

Little has been accomplished by the present Congress; a record amount of medical legislation has been introduced but no record set for laws passed. Key committees were preoccupied for weeks with various bills on Salk vaccine, its control and its cost, weeks the committees might have spent on, and possibly reported cut, less controversial health bills. Some bills, once considered important, were effectively ignored by Congress. One was the Eisenhower-Hobby plan for reinsurance of health insurance groups, defeated last year. The administration bill for federal guarantee of construction loans for hospitals and clinics stirred some interest but no hearings have been held. A bipartisan bill for U. S. grants for constructing and equipping medical research facilities travelled about the same course; hearings, a high degree of enthusiasm from medical research-



ers, confidence that the plan would go through—then no more action. For a time Senator Hill (D-Alabama), the key Senator on health bills, was determined to put through his bill for federal aid for building medical schools. When hearings were held the bill did not appear to arouse opposition from any quarter, but nothing further was done. Because this is only the first session of the 84th Congress, none of these bills will be irretrievably lost even if not passed before adjournment.

### Deferment of Income Taxes on Money Put Into Retirement Funds

The House Ways and Means Committee favorably reported a Jenkins-Keogh type bill for deferment of income taxes on money put into retirement funds, legislation for which the A.M.A. has been working for years. The bill's application is limited to those defined as self-employed in the Social Security Law, plus physicians and Christian Science practitioners. The alternative forms of investment were amended to provide three choices instead of two as under the bill. These alternative forms are: (1) a restricted retirement annuity fund; (2) a restricted retirement annuity contract; (3) the life insurance annuity contract to the extent that the premium is allocated to the annuity. The maximum amount that could be excluded in any taxable year was reduced from \$7,500 to \$5,000 and the maximum lifetime exclusion was reduced from \$150,000 to \$100,000. H.R. 10 is now being handled legislatively as a part of an omnibus tax revision bill.

## MEDICAL NEWS IN TENNESSEE

### Hill-Burton Grants for Tennessee

The Department of Health, Education and Welfare reports that as of June, 1955, the status of all Hill-Burton grants for the State of Tennessee totals three projects at a cost of \$1,150,000, including \$598,000 federal contribution and designed to supply 149 additional beds. Fourteen projects at a total cost of \$21,161,694, including federal contribution of \$5,838,771 and designed to supply 970 additional beds, is under construction. Fifty-four projects have been completed and are in operation covering a total cost of \$39,955,979 and supplying 2,449 additional beds in the state.

### Middle Tennessee Heart Association

A total of \$21,889 has been allocated by the Board of Directors of the Middle Tennessee Heart Association for research in

diseases of the heart and blood vessels. Most of the research will be conducted at the Vanderbilt University School of Medicine. Of the total grant, \$16,889 will go to the Laboratory of Clinical Physiology. Other funds will be devoted to a program of public information to alert the general public to the importance of controlling heart disease.

### Medical Profession in Tennessee Commended

An editorial appearing recently in the *Chattanooga News-Free Press* should not go unnoticed. The editorial highly commended the House of Delegates of the Tennessee State Medical Association for its action of pledging the profession to give their services in the administration of polio vaccine "freely and without cost to those unable to pay." The editorial had reference to the action taken by the House of Delegates of the Tennessee State Medical Association at a called meeting in June. The editorial stated: "In accordance with the great traditions of medicine, no child will be denied vaccination because of inability to pay a physician's fee." The editorial further stated that "The doctors who of course are vitally concerned are showing a commendable attitude toward the vaccination problem. This attitude should be appreciated by the public and emulated by others with responsibility for direction of the program."

This is a fine tribute paid to the membership of the Tennessee State Medical Association by a large metropolitan newspaper. Our sincere appreciation goes to the editors of the *Chattanooga News-Free Press*.

### University of Tennessee College of Medicine

The following appointments have been made to the faculty:—Dr. Edward H. Storer of Seattle, Washington, assistant professor of surgery and director of the Surgical Research Laboratories; Dr. Martha Ann Loving, instructor in the Division of Obstetrics and Gynecology; Dr. William H. Morse, recently returned from service in the Army, instructor in the Department of Urology; Dr. Michael L. Gompertz, of Kennedy Veterans Hospital, instructor in Medicine; Dr.

Walter Fleischmann of the V. A. Hospital at Lamar, assistant professor in Pediatrics; Dr. George A. Coors, assistant in Surgery; Dr. John Lee Armstrong of Somerville, Tennessee, Dr. John Claiborne Thomson, Jr., and Dr. Julian Kenneth Welch, Jr., of Brownsville, Tennessee, as assistants in the Department of General Practice; Dr. Gordon Mathes and Dr. Maurice Segal as assistants in Urology; Dr. Charles R. Riggs and Dr. T. Murray Ferguson as assistants in Obstetrics and Gynecology.

★

The M. and R. Laboratories of Columbus, Ohio, has awarded \$3,000 a year for three years to Dr. Lloyd Crawford, of the Division of Pediatrics to investigate various facets on milk allergy in children.

★

The Memphis Heart Association has established an annual cardiovascular lectureship. The guest lecturer, to be paid by the Association, will be selected by representatives of the Association and the University. The lecture will be given each Fall as a part of the teaching program for medical students.

★

Dr. Douglas H. Sprunt, of the Division of Pathology and Microbiology, has been appointed a member of the Cancer Control Committee of the National Cancer Institute of the U. S. Public Health Service.

★

The University of Tennessee College of Medicine will offer 12 postgraduate programs for physicians during 1955-56. (See Section on Announcements at end of this issue for dates.)

### Tennessee Radiological Society

The newly elected officers of the Society are: President, Dr. John M. Wilson, Memphis; Vice-President, Dr. Ben R. Mayes, Nashville; Secretary-Treasurer, Dr. George K. Henshall, Chattanooga.

## PERSONAL NEWS

**Dr. L. W. Edwards** of Nashville will return to his surgical practice and teaching schedule September 1. Dr. Edwards interrupted his practice March 27th because of illness.

### CORRECTION

The July issue of the JOURNAL stated that Dr. Charles B. Smith was opening his office for the practice of psychiatry in Nashville in the Medical Arts Building. Dr. Smith will have his office at 2109 Hayes Street.

**Dr. Swan Burrus, Jr.**, Jackson, has been certified by the American Board of Obstetrics and Gynecology.

**Dr. H. S. Rule, Dr. H. L. Hyatt and Dr. J. S. Ruffin**, all of Covington, and **Dr. M. L. Patton, Dr. Henry Roberts Dr. Roger Campbell and Dr. Eugene Spiotta**, all of Memphis, were recent guests of Eli Lilly and Company for inspection of the Lilly Research Laboratories.

**Dr. J. N. Proffitt**, Maryville, has been elected chief of the medical staff of Blount Memorial Hospital. He succeeds **Dr. Henry A. Callaway**. **Dr. R. H. Haralson**, Maryville, was named vice-chief and **Dr. Elgin P. Kintner**, secretary.

**Dr. Harris D. Riley, Jr.**, Nashville, recently addressed the Chattanooga-Hamilton County Health Council.

**Dr. J. W. Presley**, La Follette, has been elected to the Board of Public Utilities for that city.

**Dr. Charles C. Trabue IV**, Nashville, **Dr. Sam O. Jones**, Centerville, and **Dr. Clyde Crosswell**, Memphis, are members of the State Polio Advisory Committee.

**Dr. Prentiss A. Turman** has opened his office in Whitehaven for the practice of obstetrics and gynecology.

**Dr. Lowry Dale Kirby**, Nashville, has entered the U. S. Army for two years.

**Dr. Joe H. Henshaw** is now connected with the Lowery Clinic-Hospital in Sweetwater.

**Dr. J. T. Layne**, Copperhill, has moved his office to the Stepp Building.

**Dr. Robert E. Merrill**, Tullahoma, announces the opening of his office for the practice of medicine where he will specialize in pediatrics.

**Dr. Malcolm H. Weathers, Jr.**, has been separated from the Army and will return to his practice of medicine in Loretto, late this summer.

**Dr. Gordon Turner, Jr.**, and **Dr. B. L. Holliday** have moved to Linden from Huntingdon, where they have opened an office for the practice of medicine.

**Dr. R. C. Kash**, Lebanon, has been named president of the Upper Cumberland Medical Society.

**Dr. P. M. Dings**, Oliver Springs, has been appointed Health Officer of Roane County.

**Dr. L. C. Bryan**, Rutledge, has been qualified to run for City Commissioner.

**Dr. Wilson Carter Williams**, Nashville, has succeeded **Dr. W. E. Cooper** as manager of the Thayer Veterans Hospital in Nashville.

**Dr. Vincent DiRienzo**, Franklin, has opened his own medical clinic in Franklin.

**Dr. J. E. Acker**, Knoxville, recently addressed the meeting of the Tennessee Heart Association in Nashville.



**Dr. W. A. Garrett**, Cleveland, was the speaker at the Rotary Club recently at Athens.

**Dr. Luther M. Freeman**, Granville, has been honored at a celebration commemorating his fifty years of service in Granville and neighboring communities.

**Dr. William W. McGowan**, Covington, has returned to his office for the resumption of his practice.

**Dr. Robert W. Myers**, Chattanooga, announces the removal of his office for the practice of internal medicine to the Professional Building, Chattanooga.

**Dr. Fred C. Reynolds**, Clarksville, has opened his office for the practice of Medicine.

**Dr. Jere W. Lowe**, Cookeville, has accepted an appointment as staff surgeon at Uplands Cumberland Medical Center in Crossville.

**Dr. W. B. Wadlington** has announced the opening of his office in Donelson for the practice of pediatrics.

**Doctors Laurence A. Grossman and Milton Grossman**, Nashville, have moved their offices to 1816 Hayes Street.

**Dr. David Pickens, Jr.**, returning from military service, has opened his office in Nashville for the practice of general and thoracic Surgery.

**Dr. Albert P. Isenhour, Jr.**, Nashville, has opened his office for the practice of Urology.

**Dr. Roland D. Lamb**, Nashville, has moved his office to the Medical Arts Building.

**Dr. Luther A. Beazley, Jr.**, has moved his offices to the Stanford Guill Building, Donelson.

**Dr. Thomas F. Parrish** has joined Doctors George K. Carpenter, S. Benjamin Fowler and Don L. Eyler, of Nashville, in the practice of Orthopaedic Surgery.

**Dr. Ray L. Dubuisson**, Nashville, announced the opening of his office in the Formosa Building for the practice of Pediatrics.

**Dr. Charles G. Peerman, Jr.**, Nashville, has opened his office for the practice of Obstetrics and Gynecology in the Medical Arts Building.

**Dr. Robert E. McClellan** has associated himself with Doctors Oscar W. Carter and John M. Tudor, of Nashville, in the practice of Urology.

## BOOK REVIEW

**A Compend of Electrocardiography.** By **Harris Sklaire, M.D.**, Dansville, N. Y., **F. A. Owen Publishing Co.** Fourth Edition, 1955.

This is a pocket-size book of fifty-four pages. It is written by a physician who first was an electrical engineer. The author's thoughts represent an oversimplification of electrocardiography in his concept of an electrodynamic activity of the heart muscle rather than a physicochemical one. The book consists actually of some two dozen illustrations with explanatory notes. The cuts are in the main electrocardiograms to show the basic changes which may occur. For the novice this little book

will explain some of the phenomena of electrocardiography.

R. H. K.

**Stress: Fourth Annual Report, 1954.** By **Hans Selye, M.D.**, and **Gunnar Hensler, M.D.** Montreal, Canada. Acta, Inc., 1954. 749 pages.

Selye again describes his Stress concept and brings it up to date as of 1954. The General Adaptation Syndrome is presented and the first section of the book is related to this subject. The relationship of the several hormones to this syndrome and their place in treatment are studied carefully. Then came a series of special articles on A.C.T.H. and cortisone and related subjects.

The balance of the book is given to the extensive and remarkable bibliography which characterized the previous annual reports. This indexing of papers of a worldwide literature is sufficiently remarkable to warrant the purchase of this book if one has interest in the endocrinological field. There are numerous cuts.

R. H. K.

**Prenatal Mortality in New York City.** By **Schuyler G. Kohl, M.D.** Published for the Commonwealth Fund. 112 pages. Cambridge, Mass.: Harvard University Press, 1955. Price \$2.50.

This is a detailed study of 955 stillbirths and deaths of newborn infants under 30 days of age for the purpose of determining as accurately as possible the causes of prenatal deaths, factors of responsibility, and the extent of preventability. Information was obtained from the hospital records of the mother and baby, pathologic reports, and consultation with physicians and nurses. An evaluation of each case was made with the assistance of panels consisting of an obstetrician, a pediatrician, and a pathologist. All data were again reviewed by the author and an editorial committee before publication.

Over-all percentage of deaths judged to be preventable was 35 per cent. Most frequently listed as factors or responsibility were (1) unavoidable disaster (listed in 55 per cent of cases), (2) errors in medical judgment (31 per cent), (3) unsatisfactory pediatric care (27 per cent), (4) errors in medical technique (24 per cent), and (5) inadequate prenatal care (22 per cent). Several factors were present in some cases. Infrequently listed (less than 10 per cent of cases) were unqualified medical attendant, family at fault, and intercurrent infection.

The leading cause of death among stillbirths was anoxia; among deaths of newborn at ages under six days, pulmonary pathology, malformations, and birth trauma were the leading causes; and among infants six to thirty days of age, infections and malformations were most frequently listed.

The report indicated that prenatal mortality in New York City (and probably elsewhere) can be reduced still further, and points out those areas where attack can be most fruitfully made.

MARGARET P. MARTIN, PH.D.



**An Outline of the Treatment of Fractures. By the Committee on Trauma. Fifth Edition, revised and amplified. 97 pages, illustrated. Chicago: American College of Surgeons, 1954.**

In content this most recent edition of the Outline for Treatment of Fractures does not differ widely from the predecessors. Valuable additions have been made to the chapters on X-ray examination of fractures and rehabilitation. There is a review of methods of therapy for some of the more common fractures with a revision of recommended treatment including newer concepts of management.

This is a handbook which should be available to the surgical house officer and the intern working in the emergency room of the general hospital, for it is perhaps the most concise and up-to-date discussion of fracture problems that is available. The general practitioner will find this book helpful as an advisor in fracture care. As the title implies, the function of this book is to outline; it is not a substitute for adequate fundamental training in the treatment of fractures.

BENJAMIN F. BYRD, JR., M.D.

## ANNOUNCEMENTS

### American College of Chest Physicians

The Council on Postgraduate Medical Education of the American College of Chest Physicians will sponsor the following postgraduate courses on diseases of the chest this fall: Tenth Annual Postgraduate Course, Hotel Knickerbocker, Chicago, October 3-7; Eighth Annual Postgraduate Course, Park-Sheraton Hotel, New York City, November 14-18. Tuition is \$75.00 for each course which includes round table luncheons. Further information may be obtained from the Executive Director, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

### Endocrine Society

"Endocrinology and Metabolism" will be the subject for the seventh annual Postgraduate Assembly of the Endocrine Society, September 26-October 1, at Indianapolis, with the cooperation of the Indiana University School of Medicine.

Information regarding the program, registration, etc., is available by addressing: Postgraduate Office, Indiana University School of Medicine, 1100 West Michigan, Indianapolis 7, Indiana.

### Urology Award

The American Urological Association offers an annual award of \$1,000 (first prize of \$500, second prize \$300 and third prize \$200) for essays on the result of some clinical or laboratory research in Urology. Competition shall be limited to urologists who have been graduated not more than ten years, and to men in training to become urologists.

The first prize essay will appear on the program of the forthcoming meeting of the American Urological Association, to be held at the Statler Hotel, Boston, Mass., May 28-31, 1956.

### PR Institute Planned

The 1955 A.M.A. Public Relations Institute will be held at the Drake Hotel in Chicago, August 31 and September 1. Discussions on grass roots activity in national legislation; basic public relations techniques; medicine in the magazines, and the individual's role as a PR communicator. Registrants will have an opportunity to swap ideas with others on medical PR projects and problems. A number of motion pictures will be shown. The author of "Public Relations in Medical Practice" will discuss his PR theories and special tribute will be paid to county societies at an informal luncheon session. Throughout the two-day meeting, A.M.A. Bureau of Exhibits displays and samples of successful state and county society PR Projects will be shown. All medical society officers, public relations committee chairmen, and Woman's Auxiliary personnel and officers are cordially invited to attend.

### AMA Approves Five New Simplified Insurance Claim Forms

Approval has been granted by the A.M.A.'s Council on Medical Service to five new simplified insurance claim forms drawn up by a special committee of the Health Insurance Council. This committee which worked in collaboration with the A.M.A. Council's Committee on Prepayment Medical and Hospital Service included representation from all types of private insurance carriers. At the present time, a total of six simplified insurance claim forms have been approved by the American Medical Association.

The additional claim forms may be identified by the following symbols and titles: ID-1—Attending Physician's Statement, Accident or Sickness (Individual Insurance); IDS-1—Attending Physician's Supplementary Statement (Individual Insurance); GD-1—Attending Physician's Statement (Group Insurance); GDS-1—Attending Physician's Supplementary Statement (Group Insurance); and IPHS-1—Attending Physician's Statement, Accident or Sickness (Individual Hospital or Surgical). These five forms together with GS-1 (Group Surgical Expense, approved in 1954) are, in essence, adaptations of two basic forms—one designed for groups and the other for insurance underwritten on an individual or non-group basis.

It is hoped that the majority of the insurance companies identified with the Health Insurance Council soon will use these forms in their day-to-day claims administration and that physicians throughout the country will cooperate by completing the simplified forms promptly to facilitate the administration of claims.

### Postgraduate Courses 1955-56 at U. T.

Office gynecology, September 7, 8 and 9, 1955; radiology, September 14, 15 and 16, 1955; clinical

electrocardiography, October 5, 6 and 7, 1955; prevention and management of cardiac arrest, October 20 and 21, 1955; hematology, February 28, 29 and March 1 and 2, 1956; diagnosis and management of peripheral vascular diseases, March 7, 8 and 9, 1956. Pediatrics, March 14, 15 and 16, 1956; gastroenterology, March 28, 29 and 30, 1956; fractures and dislocations, April 25, 26 and 27, 1956; dermatology, May 9, 10 and 11, 1956; cardiovascular

lar diseases, May 23, 24 and 25, 1956; abdominal surgery, July 25, 26 and 27, 1956.

In addition three five-day diversified programs for general practitioners will be offered by three divisions of the college. The courses and the dates offered are:

Division of Medicine, September 26-30, 1955; Division of Obstetrics and Gynecology, October 24-28, 1955; and Division of Pediatrics, November 7-11, 1955.

## PLACEMENT SERVICE

*The placement service of The Tennessee State Medical Association is designed to assist doctors and communities to get together. Further information and contacts on both physicians and communities are available from the Public Service Department, 322 Doctors Building, Nashville 3, Tennessee.*

### Locations Wanted

A 28 year old, married physician, Protestant, graduate University of Tennessee. At present Interning. Desires General Practice, Clinic, Assistant or Associate. Available August 1, 1955.

LW-162

A 30 year old, married physician, Protestant, graduate St. Louis University, desires general practice in community 10,000-30,000. Clinic, assistant or associate acceptable. Desires East or Middle Tennessee. Available late Spring, 1955.

LW-165

A 25 year old, Protestant, married, graduate University of Tennessee. Desires General Practice with minor surgery in small town near Knoxville. Will consider others. Available January 1, 1956.

LW-167

A 33 year old, married physician, Hebrew, graduate University of Maryland, Diplomate American Board of Dermatology & Syphilology. Priority IV. Available immediately.

LW-168

A 33 year old, married physician, Protestant, graduate Northwestern University, priority IV, Desires Internal medicine, clinic, assistant or associate. Available any time.

LW-169

A 31 year old, married physician, Roman Catholic, graduate Georgetown University School of Medicine. Board eligible American Board of Orthopedics. Draft exempt. Desires clinic, assistant or associate. Available October 1.

LW-170

A 31 year old, married physician, Episcopalian, graduate University of Pennsylvania. Present practice limited to hospital patients. Desires to enter private practice. Specialty Internal Medicine. Available now.

LW-171

A 44 year old, married physician, Jewish, graduate University of Illinois, Board certificate held in Ophthalmology. Priority 4F. Desires associate or Solo. Available immediately.

LW-176

A 31 year old, married physician, Episcopal, graduate Georgia Medical College, specialty training in Ob-Gyn. Category 4. Desires clinic, assistant or associate. Available August 1.

LW-179

A 41 year old, married physician, Protestant, graduate University of Texas School of Medicine. Desires Otolaryngology and endoscopy in Clinic, assistant or associate. Available September 1.

LW-181

A 36 year old, married physician, Catholic, graduate University of Colorado. Board eligible in Pediatrics. Military status, not Eligible,

previous service. Desires clinic, assistant or associate. Available August 1.

LW-182

A 35 year old, married physician, Protestant, graduate Yale University. Priority 4. 20 months residency in Internal medicine. Six years practice of Internal medicine. Available 60 days following notice.

LW-184

A 33 year old married physician, Protestant, graduate Washington University, certified by American Boards of Internal Medicine. Community preferred 30,000. Desires clinic, assistant or associate in East Tennessee. Available July 1.

LW-188

A 41 year old married physician, Protestant, graduate Jefferson Medical College of Philadelphia. Draft exempt. Desires general practice. Possibly Clinic—if so in Internal Medicine. Available 3 months after making decision.

LW-189

A married physician, Protestant, graduate University of Arkansas. Board eligible in psychiatry, but interested in returning to general practice. Draft exempt. Available now.

LW-190

A 55 year old, married physician, Protestant, graduate Buffalo. Desires general practice. Available July 12.

LW-191

A 30 year old, single physician, Protestant, graduate Columbia University. Board eligible in Internal Medicine, plus "subspecialty" in Radioisotopes as applied to Int. Med. Priority IV. Available July 15.

LW-192

A 30 year old married physician, Protestant, graduate Tulane, General Surgery training 3 years. Entering practice first time. Priority IV. Desires community 15,000 up. Clinic, assistant or associate. Available September 1, 1955.

LW-194

A 35 year old, married physician, Protestant, graduate University of Louisville. Three years residency, Internal Medicine. Just released from army. Desires clinic, assistant or associate. Available August 1, 1955.

LW-195

### Physician Wanted

Excellent Opportunity: Physician to take over general practice, with surgery if desired, in town of 4,500 population. Located northwest Tennessee. Leaving for residency.

PW-61

Town of 4-5 thousand population, located in East Tennessee, desires general practitioner. Community cooperation promised in securing house, and will re-do building to suit physician for office space.

PW-64

Wanted: An associate, in general practice in clinic with two other physicians. Middle Tennessee. Will guarantee a generous income from the start. Do not need to buy any equipment.

PW-65

Town of 500 population, desires general practitioner. Former physician leaving for military service. West Tennessee. Office in hospital, fully equipped, X-ray, etc.

PW-66

Small town in West Tennessee desires general practitioner. No other physician in community. All efforts will be made to cooperate with physician in setting up his practice.

PW-67



**APPROVED CARD RECORD**  
*Committee on Postgraduate Instruction in Obstetrics*  
**FRONT**

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BACK

## PRENATAL EXAMINATION

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# Journal of the Tennessee State Medical Association

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Volume 48

SEPTEMBER, 1955

Number 9

## Symposium: Inflammatory Diseases of the Terminal Ileum and Colon

*These papers consider the several more chronic inflammatory diseases of the lower ileum and colon from the viewpoint of cause, clinical picture and treatment.*

### AMEBIASIS AND TUBERCULOSIS\*

HAROLD B. HENNING, M.D., Chattanooga, Tenn.

In a brief discussion of the diagnosis and treatment of tuberculosis and amebiasis of the intestinal tract, a great amount of important detail will have to be touched upon very lightly or omitted entirely.

#### Tuberculosis of the Intestines

Intestinal tuberculosis is not commonly seen in practice, since it is usually secondary to pulmonary tuberculosis. However, it is a condition that must be considered when lesions of the ileocecal region are being investigated. Intestinal tuberculosis is the most common complication of pulmonary tuberculosis, and in autopsies on patients dying of the disease, ulceration of the intestine has been observed in 50 to 80 per cent. Of course, this high incidence at autopsy is not truly representative of its incidence in the clinic. Intestinal lesions usually occur during active pulmonary tuberculosis and in most cases there is active ulceration with cavitation in the lungs. Primary infection of the intestines does occur, but is now so rare in this country that it will not be discussed here.

It is generally believed that infection takes place directly from ingested organisms, which show a marked predilection for the ileocecal region. Two general types of lesions are described: the ulcerative and the hyperplastic.

The *ulcerative type* is by far the more

common, and is usually found in the terminal ileum, in the beginning of the large bowel, or at both sites. The initial infection seems to occur in the glands which dip deepest into the lymphoid tissue. From this point lesions are set up in the adjacent submucosa. The overlying mucosa may slough off and leave an ulcer, but in many cases it remains intact, so that grossly visible lesions may not be present. Invariably the mesenteric lymph nodes are infected.

If the mucous membrane sloughs off, a ragged ulcer is produced, usually shallow, with undetermined margins. The base of the ulcer may be submucosa, muscularis or serosa. The ulcers tend to encircle the bowel, but longitudinal ulcers are not rare. The size of the ulcers varies greatly. The disease is a slow process which permits time for the development of adhesions and walling off, in the event of serosal involvement, which accounts for the low incidence of perforation.

The encircling tendency of the lesion accounts for the development of stenotic areas causing partial obstruction of the bowel. Perforation occurs most often in the ileum and next in the appendix. The formation of fistulae usually follows operative procedures and one should suspect tuberculosis or nonspecific ileitis if a fistula develops after an operation for appendicitis.

Clinically, there is no symptom complex that is characteristic of the disease. It is very difficult to evaluate the significance of intestinal symptoms in patients with pul-

\*Read before the Meeting of the Tennessee State Medical Association, April 12, 1955, Chattanooga, Tenn.



monary tuberculosis, and many symptoms may be present in the absence of intestinal tuberculosis. One should suspect the possibility of intestinal tuberculosis, in the presence of pulmonary cavitation with bacteria-laden sputum upon the occurrence of abdominal complaints associated with changes in bowel habits, irregularities in the temperature curve, or unsatisfactory clinical course not explained by the course of the lesion in the lung.

The symptoms are by no means classical or pathognomonic. Abdominal symptoms may be minimal and at times entirely absent. Abdominal pain and diarrhea are the most common symptoms, both being present in the majority of patients with intestinal tuberculosis. The pain may be vague and generalized, with no particular relationship to meals, though frequently present after eating. The pain tends to occur in the right lower quadrant, the peri-umbilical region and in the hypogastrium. It is usually crampy or colicky and may be relieved somewhat by defecation, especially if the colon is involved. In the presence of peritoneal irritation, more localized, severe but constant pain appears. This may simulate acute appendicitis. Acute swelling of the mesenteric nodes may cause excruciating pain, most often in the right lower quadrant.

The clinical features of the diarrhea do not differ in any way from those of regional ileitis. Unless the colon is also diseased, the number of stools rarely exceeds 3 to 6 a day, usually they are semiliquid or mushy. Gross mucus, pus and blood are not common in the absence of colonic involvement. In more acute episodes, with extensive ulceration of the colon, the stools may be liquid and show, from time to time, gross mucus, mucopus and some bloody particles. Massive hemorrhage is very rare. Usually the diarrhea is intermittent; it may disappear after institution of a bland diet and physical rest.

The physical examination may reveal no abnormality unless there is peritoneal involvement, perforation, tuberculous granuloma or intestinal obstruction. Rarely, a circumscribed mass may be felt, usually with the hyperplastic type of infection.

The radiologic examination offers some help in diagnosis. There is a tendency for

the cecum and ascending colon to empty of barium rapidly, an indication of extreme irritability. The "Stierlin sign" (a constantly empty cecum, with barium in the terminal ileum and transverse colon) is worthy of note. There are other roentgenologic findings which cannot be discussed here for lack of time. The roentgenologic changes are not pathognomonic and are not invariably present, but their presence in patients with pulmonary tuberculosis and intestinal symptoms justifies the diagnosis.

*Hyperplastic intestinal tuberculosis* occurs most commonly in the ileocecal region; it is occasionally seen in the sigmoid colon and may occur in any part of the colon. Clinically, the picture is usually that of intestinal obstruction associated with a palpable tumor, often with an antecedent history of diarrhea and mild dyspeptic symptoms. A tumor is felt in about 65 per cent of reported cases. It cannot be distinguished from malignancy and, usually, when there is no evidence of pulmonary tuberculosis, operation is done with the tentative diagnosis of carcinoma.

The *treatment* of intestinal tuberculosis is that of the primary infection, with the usual attention to rest and nutrition and with a low residue diet. Intestinal tuberculosis responds well to dihydrostreptomycin with para-amino-salicylic acid and/or the nicotinic acid derivatives. There are a few indications for surgery: (1) localized tuberculous involvement of the intestine, usually of the hyperplastic type; (2) stenosis of the bowel, with obstruction; and (3) perforation of a tuberculosis ulcer.

#### Amebiasis

The common portal of entry of the *Endamoeba histolytica* is the colon, and involvement of other organs is almost always metastatic from this region. The cecum, appendix, ascending and rectosigmoid colon are frequent sites of disease. The entire colon is involved in about 60 per cent of cases, the ileum and ileocecal valve in 5 per cent. Isolated areas of disease have been noted in every part of the colon.

The initial lesions are usually in the nature of a necrosis of the superficial mucosal cells, with pinpoint areas of ulceration. There may be some edema and hyperemia

around the edge of the ulcers, but the intervening mucous membrane appears normal. As the amebae multiply and penetrate into the deeper layers, the mucosa is elevated in tiny nodular areas with minute apertures. These eventually rupture, with true ulcer formation. The organisms rarely penetrate deeper than mucosa or upper layers of the submucosa.

As the amebae burrow laterally, communicating sinuses are formed. Eventually the mucosa may slough away or hang into the lumen, producing a ragged, shaggy appearance. Thrombosis of the vessels of the bowel wall does not occur, and this accounts for the ease with which the amebae enter the portal circulation.

*Acute amebic dysentery* may be of the acute fulminant, or the acute relapsing types. Acute amebic dysentery may have a course identical with that of acute bacillary dysentery, with abdominal pain, fever, leukocytosis and frequent stools, which rapidly lose their fecal character to consist only of blood and mucus. The severe symptoms usually begin to subside in four or five days, the disease often merging into the chronic type or the acute relapsing type.

The *acute relapsing type* occurs much more commonly in patients who, having been infected, continue to harbor the parasite. It may appear suddenly in apparently healthy carriers. Relapse may be very acute in onset. However, the recurrences are usually much milder than the acute fulminating type, appearing over a period of several days, finally becoming more severe until true dysenteric symptoms are present. The stools usually contain a certain amount of fecal matter. Depending upon the duration of the attacks, usually from one to four weeks, there may be loss of weight and strength and fatigue. However, in some cases the attack may be so mild that no time is lost from work. Mild degrees of relapsing dysentery are very common, often consisting only of anorexia, lassitude, vague digestive disturbances and mild abdominal pains, with the passage of several soft stools a day. These attacks may be so mild that amebiasis is not suspected.

*Chronic amebic dysentery* is by far the most common form of amebiasis. Occasionally for a period of one to three days, there

may be bouts of frequent stools, probably five or six a day, which are not truly diarrheal. Fever is uncommon and pain is usually absent or very slight. Between these attacks there may be long periods, up to fifteen years or longer, when there are no symptoms. If the infection persists there may be constitutional symptoms, such as fatigue, weight loss and vague digestive symptoms. The gastrointestinal symptoms are varied and frequently suggest functional disorders. There may be constipation with or without occasional minor bouts of diarrhea. Secondary anemia may develop because of slight but constant loss of blood and to anorexia. The physical examination may show mild tenderness over some part of the colon, the most frequent site being in the region of the cecum or sigmoid or in the hypogastrium.

The *latent form* or *carrier state* is not at all rare. Lesions may be found at autopsy in patients who have given no history of an acute attack.

Occasionally, the chronic reaction of the bowel wall results in formation of a granuloma. This type of lesion is usually seen in the rectum or cecum. The palpable tumor may be quite large and carcinoma may be suspected; occasionally obstruction occurs. Radiologic examination is of no help, and frequently the diagnosis cannot be made until the tissue removed at operation is examined microscopically.

*Amebic hepatitis* and *abscess of the liver* are the most frequent complications, but cannot be discussed here.

*Diagnosis.* I shall have to dismiss the diagnosis of amebiasis in a few words, in order to discuss treatment in the remaining few minutes. Aside from taking a careful history and doing a thorough examination, the most important factor in diagnosing amebiasis is an awareness of the disease as a possibility. In most cases of active colitis ulcers may be visualized with the sigmoidoscope, and amebae demonstrated in the exudate. Experienced laboratory workers are necessary for accurate identification of the trophozoites and cysts. The character of the cellular elements in the stools may be of help in differentiating acute amebic from bacillary dysentery. In some circumstances,



the complement-fixation test may be of help.

*Treatment.* The patient need be kept in bed only during the acute stages. The diet should be bland, and in acute dysentery may be restricted to frequent small liquid feedings, later progressing through bland diets to a relatively normal low-residue diet.

From the standpoint of treating the individual patient, the clinician must assume that the bowel and tissue phases co-exist. He must also realize that if cysts of *E. histolytica* are being passed in the stools an infection exists. "The cysts are not casual interlopers living in the gut." As part of the management of the patient, the clinician has the responsibility of investigating the possible sources of infection, not only as a public health measure but to protect against reinfection, which might be confused with failure in treatment.

The drugs available for treatment fall into two major classes: those effective in clearing the bowel infection and those killing the parasite deep in the tissues. To insure as high a cure rate as possible, both types of drug should be used at the same time. By and large, the relapse rates with single drugs have been disappointing. No ideal amebicide has yet been found, and the problem of treatment failure may be minimized by repeating courses of therapy at close intervals, changing the drug with each course. It is not necessarily true that one drug is superior to another. The choice should be based on such factors as the relative toxicity, the response of the patient, the cost of the drug and the physician's experience with a given compound.

Emetine, which was the only effective drug for extra-intestinal amebiasis before chloroquine (Aralen) was developed, is very toxic and is now used only when parenteral administration is imperative. Chloroquine is highly effective in amebic hepatitis, liver abscess and other tissue infections, and is considered the drug of choice. Most patients tolerate it well although there are a few side effects.

For complete therapy, however, chloroquine or emetine must be supplemented by

an agent capable of eradicating the ameba from the colon.

Iodine compounds still in use include chiniofen, Vioform and Diodoquin. Of these Diodoquin is the least toxic and is credited with good results; the incidence of diarrhea from Diodoquin is rather high.

Arsenicals have proved efficiency,—carbarsone, Stovarsol, Treparsol and others. The dangers of arsenical toxicity reserve them for cases where other treatment is unsuccessful. The combination of arsenic and bismuth known as Milibis is an efficient, relatively nontoxic amebicide. Carbarsone has been widely used.

A number of antibiotics have been found to be of value. There are wide extremes in the reported therapeutic results, which on analysis suggest variations in the susceptibility of strain of the parasite, differences in the severity of cases, inconsistency and inadequacy in follow-up, and lack of uniformity in the mode of administration of the drugs.

In a recent communication from Dr. William Frye of Louisiana State University School of Medicine, who has studied the problem intensively and carefully for many years, he states that "the best treatment found to date, both for acute and for carrier cases, is tetracycline or Terramycin Carbo-mycin, or Magnamycin, is less effective than the above antibiotics. We have a paper now in press reporting the use of Terramycin and fumagillin in the treatment of approximately 800 patients who were found to be carriers. The efficiency of these drugs was approximately equal but the reactions to fumagillin were such that I would prefer other antibiotics."

Penicillin and streptomycin have no value and Bacitracin, neomycin and erythromycin have not proved to be consistently effective.

It must be remembered that the antibiotics have no effect whatsoever on extra-intestinal amebiasis. We should not forget, in the enthusiasm over the newer drugs, that the old amebicides such as carbarsone and Diodoquin are good drugs for the treatment of cases where the carrier state exists and are far cheaper than the antibiotics.



## DIVERTICULITIS AND LYMPHOPATHIA VENEREUM\*

JOHN W. AVERA, Knoxville, Tenn.

## Diverticulitis

Acute diverticulitis is sometimes referred to as "left-sided appendicitis." There are indeed many similarities including abdominal pain, nausea, fever, and leukocytosis. The pain and tenderness, though, are in the left lower quadrant instead of the right. Another difference is that the patient with diverticulitis is more likely to have a disturbance of bowel habits, usually constipation; a few cases will have bright blood in the stool. Diverticulitis occurs almost exclusively in patients over the age of 50 since diverticulosis of the colon seldom develops before this age. Diverticulosis is estimated to occur in about 5 per cent of the population over the age of 40, and probably between 10 and 20 per cent eventually develop diverticulitis. Eighty to 85 per cent of the diverticula are located in the sigmoid colon. The diverticula have very thin walls and, when inflamed, not infrequently rupture giving rise to a localized peritonitis, sometimes with abscess formation, or giving the picture of a ruptured hollow viscus with generalized peritonitis and air under the diaphragm.

The *differential diagnosis* must include carcinoma of the colon, and pelvic inflammatory disease. Both diverticulitis and carcinoma may produce a picture of partial obstruction, or a picture of localized peritonitis and a palpable mass in the left lower quadrant. The differential diagnosis is often difficult and occasionally both conditions may be present. During the acute inflammatory stage barium studies and sigmoidoscopy are inadvisable, but they may be done after the acute phase subsides.

*Treatment* of acute diverticulitis is medical and consists of antibiotics and rest of the intestine. The antibiotics most often used are a combination of procaine penicillin 600,000 units daily and dihydrostreptomycin 1.0 gram daily both given intramuscularly. The broad spectrum antibiotics are also effective and are best given intravenously in

doses of 0.25 to 0.5 grams every 12 hours. The patient is put to bed rest and given nothing by mouth. Intravenous fluids are used until the signs of acute inflammation have subsided. A low residue diet can then be started, along with a methylcellulose preparation or mineral oil. In most cases the patients will respond favorably to such a regimen, but about 20 per cent will need surgical treatment. These are usually patients having a palpable mass which persists after the acute phase is over, or those with persistent signs of intestinal obstruction, or those with abscess formation and a fistulous communication with the bladder or with the skin of the abdominal wall. It is usually necessary to do first a colostomy of the transverse colon, and an elective resection at a subsequent operation.

Special mention should be made of the *Meckel's diverticulum* of the lower ileum which is a congenital anomaly present in about one person in every forty. Most of these never give any trouble, but occasionally one may become acutely inflamed and closely resemble acute appendicitis. The diagnosis is usually made at the time of operation. Occasionally there is mechanical intestinal obstruction when a loop of ileum twists about the point from which the diverticulum rises. Another somewhat unusual picture is that of peptic ulceration of the mucosa of the diverticulum which results in pain and hemorrhage. Duodenal ulcer would be suspected in an older individual but most of the hemorrhages from a Meckel's diverticulum are in patients 10 years old or younger, and the stools are somewhat more red in color than in a bleeding duodenal ulcer.

## Lymphopathia Venereum

Lymphopathia venereum, or lymphogranuloma venereum, has joined the list of vanishing diseases. Investigators have difficulty finding enough cases in which to try the new drugs. The disease is due to a virus.

The primary lesion occurs a few days after exposure, is small and painless, and usually overlooked. A few weeks later, after spreading through the lymphatic chan-

\*Read before the Meeting of the Tennessee State Medical Association, April 12, 1955, Chattanooga, Tenn.

nels, the regional lymph nodes become enlarged, tender, and painful. In the male, the regional nodes are the inguinal nodes, and these enlarged tender nodes or buboes are usually the first recognized indications of the disease. In the female, the primary lesion is in the vaginal and the lymphatic drainage here is into the perirectal lymphatics. Suppuration, abscess formation, and fistulae are common sequellae in untreated cases, finally ending in dense fibrotic scarring.

In every female with proctitis, perirectal abscess, or perianal fistula, lymphopathia

should be considered in the differential diagnosis. In instances of rectal stricture in the female, lymphopathia should be thought of first.

The Frei skin test is very reliable (about 98 per cent) and becomes positive 7 to 40 days after the development of adenitis or proctitis, and probably remains positive for life.

A number of effective therapeutic agents are now available, including Terramycin, Aureomycin, probably all of the broad-spectrum antibiotics, and sulfadiazine.

## REGIONAL ILEITIS AND ULCERATIVE COLITIS\*

AUBREY B. HARWELL, M.D., Nashville, Tenn.

### Regional Ileitis

Regional ileitis was first described, in 1932, by Crohn and his associates as a granulomatous disease of the small bowel. In the cases comprising the original communication the lesion was localized to the terminal ileum. Further observation has confirmed the wisdom of their nomenclature, since any segment of the small bowel may be involved and cases are reported of involvement of the colon and the stomach.

*Pathologically* the initial lesion appears to be an obliterative and proliferative lymphangitis which, by virtue of the marked edema, produces a mechanical interference with the blood supply and venous drainage which lie in close proximity to the lacteals. This obstructive phenomenon in turn produces an elephantiasis of the bowel wall and the mesentery. Tubercle-like structures develop along the course of the lacteals, and the regional lymph nodes become hyperplastic. Microscopically, these tubercle-like lesions and the lymph nodes contain giant cells resembling those of tuberculosis. No caseation, however, is found and Koch's bacillus cannot be demonstrated. The mucosal ulcerations appear to be secondary to the marked environmental interference. In this highly susceptible setting abscesses occur with a tendency to sinus and fistula formation.

The *etiology* of regional enteritis is not known. Extensive investigations have failed to demonstrate convincingly any causative organism. At the present time, however, there is some suggestion that an abnormality of fat absorption may be of etiologic significance but further confirmation is required. In marked contrast to ulcerative colitis, emotional or psychiatric abnormalities are noted infrequently and probably are not of causative significance.

*Symptomatically*, regional enteritis may appear as either an acute or chronic illness. In the acute example symptoms may closely simulate acute appendicitis, or an acute abdomen with periumbilical or right lower quadrant pain, fever and tachycardia. Abdominal palpation reveals localized tenderness, spasm, and occasionally a mass may be felt. The chronic case is characterized by the appearance of cramping abdominal pain, usually periumbilical, fever, diarrhea with two to seven stools per day, some weight loss and anemia. On *examination*, there is often a palpable tender mass and chemical blood may be found in the stools. Rarely is there gross evidence of bleeding.

In the acute case, the *diagnosis* is usually established by the appearance of the bowel at laparotomy where one sees a thickened, edematous, reddened loop of small intestine which is sharply demarcated from the associated normal bowel. In the well established chronic case, the radiographic appear-

\*Read before the Meeting of the Tennessee State Medical Association, April 12, 1955, Chattanooga, Tenn.



ance of the mucosa, which appears to be granular, thickened, and separated rather widely from adjacent loops of bowel by the thickened mesentery is characteristic. In the more advanced case, the appearance of the "string sign" is pathognomonic and is produced by the encroachment upon the lumen of the markedly adenomatous bowel wall.

*Complications* of regional ileitis are those of obstruction, fistula and sinus formation. The obstruction results from the combination of the progressive scarring and the impairment of the motor function of the diseased portion of the bowel. Sinus tracts may be demonstrated during the course of either a barium enema or upper gastrointestinal series. Fistulas also may be demonstrated to adjacent bowel or another hollow viscus such as the gallbladder, fallopian tube, urinary bladder. Fistulas to the abdominal wall, fistula-in-ano and vaginal fistulas frequently occur.

*Treatment.* The acute variety of regional enteritis frequently undergoes spontaneous remission to the point of clinical cure. Medical management of the chronic disease is notoriously unsatisfactory since most of the patients eventually require surgical intervention. Long term follow-up reports on the results of surgical treatment indicate a distressing tendency to recurrence of the disease process in the immediate proximal areas of the small bowel following operation. Medical management therefore is justified in the hopes that a clear cut area of demarcation will have occurred, and that small foci of involvement which lie separated from the main lesion by normal tissue will have by that time become evident.

Medical management is supportive and symptomatic, and consists of a high protein, high carbohydrate, low residue bland diet. Tincture of belladonna or some of the newer antispasmodics are often useful in relieving the cramping abdominal pain. Chemotherapeutic and antibiotic agents are useful in the prevention or in the treatment of fistula or sinus formation. ACTH and cortisone have been disappointing in the treatment of regional ileitis.

#### Ulcerative Colitis

I request your indulgence and understanding when I henceforth refer to chronic

idiopathic ulcerative colitis by use of the abbreviated term ulcerative colitis.

Ulcerative colitis, in contrast to regional ileitis, is an inflammatory disease affecting the colon primarily with occasional involvement of the contiguous terminal ileum. Characteristically, it originates in the rectum and progresses caudad.

*Grossly and microscopically*, the damage in ulcerative colitis is surprisingly superficial being restricted to the mucosa and the submucosa. This inflammatory process is exudative and reparative rather than granulomatous. The lesions appear to be initiated by a collection of polymorphonuclear leukocytes at the base of some of the colonic mucosal glands in quantities sufficient to produce small abscesses. Crops of these abscesses appear to develop together and to rupture in unison into the submucosa, thus depriving the mucosa of its blood supply. Aside from the inflammation, fibrosis and attempts at regeneration, there are no other changes in the involved colonic wall. In the more severe and the more frequently lethal cases, an inflammatory necrosis of the vascular wall with occlusion and focal infarction may be found.

The *etiology* of ulcerative colitis remains obscure. Among the major hypotheses are those of infection, deficiency of specific intestinal factors, damage to the colonic mucosa by various proteolytic enzymes, excessive lysozyme production, allergies and lastly various emotional factors. Though no clear-cut conception of how emotional factors can produce such drastic mucosal damage, this hypothesis is supported by the observation that a high percentage of persons with ulcerative colitis demonstrate unusually strong dependent needs and definite evidence of emotional insecurity and instability. Further, there is an impressive relationship between emotional stress and the onset or relapse of the disease process. Lastly, the therapeutic results of psychotherapy have often been more satisfactory than other therapeutic programs which have not been intentionally psychotherapeutic in their approach.

The *symptoms* of ulcerative colitis vary from the very mild example characterized by the passage of from one to three stools a day and without systemic effects to the



fulminating case with 20 to 30 purulent sanguineous fecal discharges per day, emaciation, high fever, anemia, severe toxicity, abdominal distention and often a fatal outcome within a period of days to weeks. Fortunately, 50 to 55 per cent of all cases of ulcerative colitis are examples of the mild type while only 5 to 10 per cent are of the fulminant variety. The group between these extremes, representing 35 to 40 per cent of the cases, are characterized by their marked chronicity which extends for months to years. In this group 6 to 15 loose, occasionally bloody stools pass in the course of twenty-four hours. The patients demonstrate variable degrees of fever, toxicity and morbidity.

A *diagnosis* of ulcerative colitis is established by the absence of a definite etiologic agent, and by the characteristic appearance of the bowel on sigmoidoscopic examination, in which one finds a uniform grossly inflamed, edematous, friable bowel which bleeds easily on gently stroking the surface with a cotton covered applicator. The radiographic appearance of the barium filled colon is also characteristic in the well established case, showing a firm, foreshortened narrow colon in which the haustral markings are obliterated and the mucosal pattern is irregular and ulcerated.

The *complications* of ulcerative colitis fall into two categories. First, the local complications and secondly those related to other systems. The local complications include perforation, hemorrhage, obstruction, anal fistula formation and malignant degeneration. The systemic complications are those of rheumatoid arthritis, periarteritis nodosa, toxic hepatitis, thrombophlebitis, dermatitis and nephritis.

*Treatment.* Ulcerative colitis tends to be self-limiting in so far as arrest and remissions are concerned, therefore therapeutic measures are supportive. Individualization of treatment is of the utmost of importance. In general, the medical management produces good results in about 75 per cent of the cases. The medical armamentarium includes,—(1) rest, (2) diet, (3) chemo- and antibiotic therapy, (4) antispasmodics, (5) hormones, and (6) psychotherapy.

The degree of illness influences require-

ment for rest and is best judged by the attending physician.

Dietary measures aim at improving or maintaining the nutritional status of the patient without increasing the frequency or volume of fecal discharges. Many patients are in a state of chronic nitrogen deficit as a result of the protein lost in the serum, blood, pus and desquamated tissue. Therefore, the diet should contain from 150 to 200 grams of protein per day and should be a bland, low residue diet. In the critically ill patient, blood transfusions may supplement the dietary proteins and also combat the anemia. The correction of electrolytic imbalances, either by dietary alterations or intravenous fluids is necessary.

Various of the sulfonamides are often useful in combating the secondary bacterial invaders which are thought to contribute so markedly to the toxic state. Azulfadine is enjoying wide popularity at the present time. The tendency of the wide-spectrum antibiotic agents to produce radical changes in the bacterial flora of the colon, which may in turn produce symptoms which are as undesirable as the primary disease itself, suggests that more caution be used in their exhibition than with the sulfonamides.

The use of antispasmodics are of questionable value in quieting the overactive bowel. Enthusiastic endorsements of some of the newer antispasmodic agents have appeared in the literature and the older ones such as tincture of belladonna and of atrophine enjoy wide popularity. In general, however, they have not been useful.

The use of ACTH and cortisone is controversial. These hormones do produce some desirable results in the form of reduced toxicity, improved appetite and euphoria, but they rarely, if ever, alter the basic character of the underlying disease process. Furthermore, they have a tendency to mask infection, to retard fibroblastic proliferation, to delay healing, to increase the frequency of perforation of the bowel, to produce indolent colonic ulcers and at the same time they produce profound chemical alterations in the body, and physiological alterations in the adrenal and pituitary glands. Armed with these facts, it would appear that these substances should be reserved for the complications of ulcerative colitis, such

as arthritis, periarteritis nodosa, or if used for the primary disease, they should be used for a very short time as a medical stimulant only.

All treatment administered by a physician has psychotherapeutic implications to the susceptible patient. The child-like dependency and petulance which so often characterize victims of ulcerative colitis taxes the resourcefulness and the patience of the physician and the other attendants, but in no other disease process is the exercise of the art of medicine more often rewarding. Formal psychotherapy is often so traumatizing that it produces alarming exacerbations of the disease. Therefore, such treatment is usually best avoided until excellent medical control has been achieved, at which point it is often found that the patient is capable of assuming a more adult role and is no longer in need of such therapy.

## SURGICAL COMPLICATIONS\*

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### Chronic Ulcerative Colitis

The ideal management or treatment of chronic ulcerative colitis has not been developed. As the name implies, it is essentially a chronic disease. It is characterized by acute episodes which may occur at any stage during its course. A variety of complications may occur at any time during the course which may threaten the life of the patient or result in disabling sequelae. Such complications include hemorrhage, acute and subacute perforations, stricture formation, multiple fistulae, cutaneous ulcers and sinuses, joint disease and pseudopolypoid degeneration of the colonic mucosa. The latter complication is a pathologic condition with a high predisposition to the development of carcinoma.

Two types of this disease are recognized from a clinical point of view: acute fulminating ulcerative colitis and chronic ulcerative colitis. Surgery has too often been employed in the terminal phase of acute fulminant ulcerative colitis. The morbidity has been due to dehydration, loss of blood

Diversion of the fecal stream surgically is indicated in instances of acute fulminating disease, uncontrollable hemorrhage, perforation, malignant degeneration, and in those cases which represent therapeutic failure as shown by continued morbidity, or by the progression of complications in spite of an adequate medical program.

### Summary

In summary, brief descriptions have been presented of regional ileitis and chronic idiopathic ulcerative colitis. An attempt has been made to present the pathologic and diagnostic features, the symptomatology and medical management of both conditions, pathologically, clinically and therapeutically. They each appear to represent a distinct entity.

and electrolytes, and to actual or impending perforation of the colon. There are no definite rules which indicate the appropriate time to operate in the acute fulminant phase of ulcerative colitis. If, after a reasonable period of medical management, the patient fails to respond, operation should be employed.

A one stage removal of the entire diseased colon and the establishment of a permanent type of ileostomy is the procedure of choice.

The complications associated with chronic ulcerative colitis which should have surgical consideration are: hemorrhage, obstruction, fistula formation, perforation, pseudopolypoid transformation of the mucosa, joint and skin disease and carcinoma. In addition, those patients who are not rehabilitated by medical management, yet have gone into a state of remission of the disease, may eventually become candidates for colectomy. During the state of remission they are often underweight, have frequent attacks of diarrhea and develop other complications as enumerated above.

If the colon has been transformed into a fibrous tube by prolonged disease, restoration to normal is no longer possible. The development of pseudopolyposis is of grave

\*Read before the Meeting of the Tennessee State Medical Association, April 12, 1955, Chattanooga, Tenn.



significance. Many of the leading clinics have expressed the view that carcinoma of the colon is much higher in patients with chronic ulcerative colitis than it is in a comparable group of patients of the same age without ulcerative colitis.

#### Lymphopathia Venereum

Lymphopathia venereum per se is seldom recognized. It is only after the complications have become apparent that the patient seeks medical aid. One or more of the following complications may develop. Suppurative adenitis of the inguinal or suprapubic nodes, stricture formation of the rectum, rectovaginal fistula, fistula-in-ano, multiple draining sinuses of the perineum and gluteal region, and extensive sinus formations of the external genitalia. The complications following lymphopathia venereum are associated with a high morbidity and even death. Surgical intervention should not be employed until after extensive medical treatment has been given. Once the primary disease has been properly treated the complications will lend themselves better to surgical attack.

The extensive sinus formation associated with suppurative adenitis involving the inguinal nodes, perineum and gluteal regions remain active because of secondary invasion by pyogenic organisms. These sinuses should be exteriorized.

The formation of a rectal stricture is perhaps the most disabling type of complication. It is frequently associated with rectovaginal and ano-rectal fistulae. Many patients with a rectal stricture will improve markedly under medical treatment. However, in those patients with complete obstruction due to stricture formation, colostomy is usually the surgical procedure of choice.

#### Regional Ileitis

The medical management of primary ileitis has been far from satisfactory; the same might be said for the surgical treatment. The complications of regional ileitis include, intestinal obstruction, fistulae, abscesses and granulomas.

The surgical treatment of chronic regional ileitis should include radical resection of the diseased intestine, its mesentery and adja-

cent lymph nodes. Any involved intestine left within the abdomen remains as a focus for further spread of the inflammatory process.

In resection of the terminal ileum the cecum and ascending colon should be included because the ileocecal juncture and/or the cecum may be involved in the pathologic process.

#### Diverticulitis

Diverticulitis per se is primarily a medical disease. The surgeon's interest is directed toward the complications. The variety of serious complications which may be associated with diverticulitis are seldom associated with any other intra-abdominal disease. It has been estimated that about 25 per cent of the patients with a diverticulitis will require surgical intervention for the ensuing complications.

The surgeons' province in diverticulitis is limited to the complicating factors of the disease, such as, acute perforation, abscess formation, vesicosigmoidal fistula, co-existing carcinoma, complete obstruction, repeated attacks of diverticulitis notwithstanding medical management and finally, the inability to rule out carcinoma.

The acute perforation of a diverticulum into the free peritoneal cavity is accompanied by sudden sharp pain, signs of generalized peritonitis, shock, chill with elevation of temperature, leukocytosis, rapid thready pulse, abdominal rigidity and tenderness.

Patients with acute perforation complicating diverticulitis require thorough preoperative and postoperative supportive measures. The surgical procedure which might be employed would depend upon the general condition of the patient and the findings at the time of the exploration. In selected cases the affected segment of the bowel may be exteriorized and resected at a later date. If this cannot be done without risk of spreading the infection by entering the tissue planes, other methods of management should be considered. In patients representing an extremely poor risk, one may institute simple drainage only. If the patient survives and develops a fecal fistula, it can be considered for further treatment at a later date. The final choice of treat-



ment would be to close the perforation, establish drainage and divert the fecal stream.

A walled off peridiverticular abscess is the most frequent complication of diverticulitis. If drainage of the abscess is delayed for an undue length of time, it may rupture into the rectum or perforate the bladder, forming a vesicocolonic fistula. Even if the abscess should subside from the use of antibiotics the patient is not permanently cured.

A complete diversion of the fecal stream should be carried out in any patient with external fecal fistula or vesicocolonic fistula. This is accomplished best by a transverse colostomy, preferably in the right half of the colon.

It has been observed that most fistulae

will heal spontaneously after the fecal stream has been completely diverted. However, the colostomy should not be closed until the affected segment has been resected.

In the presence of complete obstruction one has no alternative to a colostomy, preferably in the right half of the transverse colon. Furthermore, one is frequently unable to determine the nature of the obstructing agent. In those patients with co-existing carcinoma and the inability to differentiate between carcinoma and diverticulitis, the surgical management will probably not differ with the management of known carcinoma in a similar segment of bowel.

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**Factors Influencing the Late Results of Mitral Valvuloplasty for Mitral Stenosis. Ellis, L. B., and Harken, D. E.: *Ann. Int. Med.* 43:133, 1955.**

The authors have analyzed their first 500 cases with a preoperative diagnosis of predominant mitral stenosis without important associated disease, who have undergone mitral valvuloplasty. It is a clinical study of the factors which are determinants in the operative mortality and late results of mitral valvuloplasty.

The selection of patients for valvuloplasty was in accord with the criteria used by the authors. Group I patients were without significant symptoms. In group II were patients with non-progressive impairment of function. Group III consisted of patients with progressive symptoms. Group IV patients were cardiac invalids, most of whom had had chronic congestive failure. Patients in group I (with the murmur of mitral stenosis alone) were not operated on. There were 13 patients in group II, 342 in group III, and 145 in group IV.

Operative mortality showed a progressive decline in group II and III patients. There was a decline from 14 per cent in the first hundred to less than 3 per cent in the fifth hundred. The operative mortality in group IV patients remained high (20-25 per cent) and indicates the desirability of getting patients to surgery before they reach the terminal state.

Four hundred forty of the 442 patients who survived operation had been followed for an average of nearly two years. The various adverse factors affecting the late results were: (1) age over 40 years; (2) auricular fibrillation; (3) some associated aortic valve involvement; (4) associated mitral insufficiency of moderate degree or more; (5) preoperative valve size of more than 1.0 sq. cm.; (6) a postoperative valve size less 2.5 sq. cm.;

(7) calcification of the mitral valve. The greatest problem in selection of patients is the determination of the presence of mitral insufficiency. In the present series a "mild degree" of insufficiency did not affect the ultimate good prognosis. "If a greater degree of insufficiency was present, the patient did somewhat less well, but still 63 per cent were helped." The affect of the adverse factors on the final outcome was tabulated for each group of patients according to the number of such adverse factors present. If none was present then there was almost certainty of significant improvement (96 per cent); with five factors only one-half of the patients improved.

There were 79 patients with peripheral embolization prior to valvuloplasty. Twenty-five per cent of these patients developed emboli at the time of operation. After surgery the danger of late peripheral embolization was small. There were only five instances of embolization in the 442 patients surviving operation, and the authors felt that operation substantially decreases the possibility of late peripheral embolization.

Fourteen patients developed recurrence of active rheumatic fever during the follow-up period, and of these 9 were unimproved.

There was only one patient in group II, 18 in group III and 12 in group IV who showed regression after initial improvement which persisted for six months or longer. In 15, one or more adverse factors were present which might explain the regression. In 5 cases there was not adequate information and in 11 a possible explanation was not apparent. It was the authors feeling that reconstitution of mitral stenosis is uncommon and rarely to a degree sufficient to result in recurrent symptoms within the period of observation. (Abstracted for the Middle Tennessee Heart Association, by James J. Callaway, M.D., Nashville.)

*These comments on the neurologic examination illustrate so well the statement made by Jenner 150 years ago, "more mistakes are made by not looking than by not knowing."*

## NEUROLOGIC EXAMINATION IN THE OFFICE\*

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All too often the medical student, frightened by an intensive exposure to neuro-anatomic detail, approaches the study of clinical neurology with considerable apprehension. After his initial struggle with the intricacies of neuro-anatomy and a similar experience with neurophysiology, the student is usually unable to enter upon a course in clinical neurology without a brief preliminary period of psychotherapy. Painfully vague recollections of the innumerable nuclei and fiber tracts are suppressed as soon as possible, and he hopes he will never be reminded of them again. It is readily understandable that a defeatist attitude is engendered. Many otherwise well trained physicians will hopefully (or hopelessly) mumble some incantation such as "multiple sclerosis," "encephalitis," or "polio" when faced with a neurologic problem, but this diagnostic sorcery is usually unavailing.

This regrettable situation has been ably described by F. M. R. Walshe,<sup>1</sup> the eminent British neurologist, who stated, "The specialization of function within the nervous system and the apparently innumerable masses of grey matter and pathways, and the many symptom-complexes of lesions involving them, lead many students during the period of their clinical training to abandon the attempt to grapple with a body of knowledge . . . that they hope and try to persuade themselves will be of no practical importance to them in the general practice of medicine.

" . . . both students and practitioners tend too easily to accept defeat in this way before a case of nervous disease and to evade . . . diagnostic problems the solution of which is easily within reach of simple clinical observation . . ."

\*Read at the meeting of the Tennessee State Medical Association, April 11, 1955, Chattanooga, Tenn.

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Sir William R. Gowers<sup>2</sup> in his memorable Manual began the discussion of the neurologic examination by remarking that "The nervous system is almost entirely inaccessible to direct observation. The exceptions to this are trifling; the termination of one nerve, the optic, can be seen, some of the nerve trunks in the limbs can be felt, either in the normal state or when enlarged by disease. *As a rule, the state of the nervous system can be ascertained only by the manner in which its work is done, and morbid states reveal their presence by the derangement of function which they cause.*"

Fortified by these quotations from past and present authorities, I should like to emphasize thoughtful history-taking and observation of the patient in action as the two most important aspects of the neurologic examination. By the "patient in action" is meant not only a searching analysis of his gait but meticulous attention to posture, facial features, speech, and abnormal movements. This part of the examination is admirably suited to the exigencies of office practice. While recording the history one is usually able to discern facial asymmetry, extra-ocular muscle imbalance, abnormal speech, unusual movements or mannerisms, and even pupillary abnormalities.

Certainly there is no substitute for a detailed and technical examination of the nervous system, but it is important to realize that there are many neurologic disorders which may be diagnosed at a glance,—or at least their identity may be strongly suspected after only a cursory examination. Conversely, a detailed but purposeless examination may place the examiner in the unfortunate position of "not being able to see the forest for the trees."

This point of view is best illustrated by the patient with early Parkinsonism. A meticulous examination with tuning fork, reflex hammer, ophthalmoscope and pin may leave the physician fatigued and unin-



formed if he has failed to notice the expressionless face, the monotonous speech, and the poverty of movement.

The woman who complains of inability to keep her mouth closed should not merely be cherished as a rare natural phenomenon. For a glance at her sagging face, with drooping eyelids and mandible, should lead to a prostigmin test and the establishment of a diagnosis of myasthenia gravis. (Figure 1.)

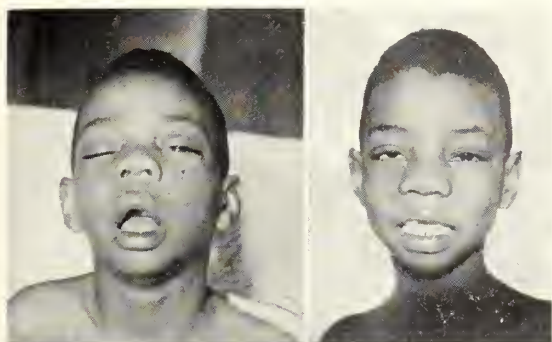


FIG. 1. The myasthenic facies of an 8 year old boy. A. Before treatment. B. Five minutes after the administration of 1 mg. Neostigmin intramuscularly.

Although the twisted face of Bell's Palsy is familiar to all, it is remarkable how often a bilateral facial palsy may be ignored or misdiagnosed as the typical facies of thyrotoxicosis.

Tuberous sclerosis, an uncommon disorder characterized by mental deficiency, convulsions, and a pathognomonic facial eruption is another diagnosis which is easily made if it is considered. The diagnosis of Mongolism is often overlooked because the physician is so intrigued with some of the minor neurologic abnormalities that he fails to make the all important general observation of the characteristic facies.

The appearance of the patient with a painful herpetic eruption along the distribution of the ophthalmic branch of the trigeminal nerve is so distinctive that it should never be confused with other skin disorders.

Various ocular muscle palsies may be readily identified as one watches the eye movements of the patient relating his history. The oculomotor nerve palsy resulting from an intracranial aneurysm or the abducens nerve palsy associated with increased intracranial pressure are obvious signs. Even while puzzling over the fantastic statements of an obviously unreliable

history, a quick glance at the patient's pupils, small, irregular, and unequal, might be of inestimable value in avoiding a diagnosis which might rival the patient's comments in its absurdity. Not to be confused with this Argyll Robertson pupil is the tonic pupil of Adie. This condition is often unilateral. The affected pupil is often larger and irregular. It reacts almost imperceptibly to light and upon near vision. Its constriction upon the application of a few drops of 2.5 per cent Mecholyl chloride is almost a pathognomonic test.<sup>3</sup> Fast disappearing from the medical scene, along with Argyll Robertson pupils, is the typical sardonic grin of the patient with tetanus. Although these disorders are becoming rarities, they should not be overlooked when their diagnosis can be so simple.

Turning our attention to the patient's hands as he nervously fidgets in his chair, we may observe the wasting of the intrinsic hand muscles as evidence of a severe peripheral neuropathy associated with alcoholism, while he is indignantly exclaiming that he has never indulged in anything but that "rare social drink." Of course, it must be remembered that wasting of the interosseous muscles of the hand may be a sign



FIG. 2. Interosseous atrophy associated with ulnar nerve damage.



of the fatal amyotrophic lateral sclerosis just as it may denote only a mild and reversible peripheral neuropathy due to pressure on the ulnar nerve at the elbow. (Figure 2.)

The trophic changes of peripheral nerve disease include changes in skin color and temperature, hair loss, and trophic ulcers. A hyperpigmentation of the feet and lower legs may outline a sensory deficit as accurately as the examiner's pin and cotton,—and much less laboriously.

Even so lowly an object as the patient's foot may be invested with great neurologic significance. The so-called neuropathic foot may be seen in Friedreich's ataxia, syringomyelia, Charcot-Marie-Tooth disease, spastic paraplegia, and, unfortunately, as an isolated and insignificant pes cavus. If the physician notices this high-arched foot and the hyperextended proximal phalanges of the toes (Figure 3), he may consider the



FIG. 3. The "neuropathic foot" of a young woman with Charcot-Marie-Tooth Disease.

possibility of a congenital or familial neurologic disorder and not be responsible for an incorrect diagnosis of "probable poliomyelitis." The fact that some of these degenerative neurologic disorders may become apparent quite suddenly following a trivial upper respiratory infection, occasionally complicates the differential diagnosis.

These are only a few of the many instances which might have been mentioned to illustrate this proposition that accurate observations of a general nature and a rudimentary knowledge of clinical neurology (without a detailed understanding of neuro-

anatomy and neurophysiology) will enable the practitioner to diagnose many of the neurologic disorders without conjuring up "multiple sclerosis" or "some sort of encephalitis" as a diagnostic refuge.

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### Discussion

J. W. JOHNSON, JR., M.D. (Chattanooga): In a short and an orderly paper, pleasantly expressed, Dr. Sproffkin has shared with us some of his enthusiasm for that most orderly, and in many ways most pleasant of specialties, neurology. Too, his is a most practical paper, calling our attention again to the discipline of observation within the office setting. Those of us who have worked our way through Ranson and Wilson and Monrad-Krohn in our student and hospital days sometimes miss in practice the superb forest of the nervous system, because of old entanglements with the serpiginous tracts of white matter and tuberos accretions of grey matter which cluttered up our early wanderings through it. I am grateful to Dr. Sproffkin for recalling the vistas and so the preception of the whole which makes for more accurate diagnosis.

I have nothing to add to Dr. Sproffkin's paper except mention of one of my own enthusiasms in office examination of the nervous system which he did not mention, and which I have found an extraordinary practical and always available bit of diagnostic equipment perhaps too frequently used by the physician instead of the patient.

Paper and pencil in the hand of the patient can tell us much. Not just handedness, the rather characteristic handwriting of Parkinsonism or the unfolding micrographia of parietal lesions, but by setting a simple task, the patient's response will always teach us something. Ask him to draw a human figure. Ask him to think of the most pleasant situation he can think of and draw a picture of it. Using the 9 Gestalt figures that Dr. Lauretta Bender selected, ask him to draw them one by one as the cards lie in front of him. Point out, if necessary, that few of us are artists (though artistic skills will not negate the test's usefulness) and watch what the patient does. Its permanency as a record makes for later comparison which may be diagnostically useful. In several hundred tests of this sort I have never had a patient refuse, and never failed to learn something when I have used paper and pencil in the hand of the patient as well as reflex hammer and tuning fork in the hand of the physician.

Dr. Sprofskin is to be thanked for many things, not the least of which is breaking a lance at "multiple sclerosis," "encephalitis" and "polio," the diagnostic residue left to too many of us from

exposure to a medical discipline and specialty which in human medicine, even more than in veterinary medicine, contains vast opportunities for helping our patients.

## STAFF CONFERENCE

### Vanderbilt University Hospital\*

#### Digitalis and Its Use

DR. DAVID STRAYHORN: The subject to be discussed today is the use of digitalis in the treatment of congestive heart failure. Although in recent years emphasis has been placed increasingly on the role of the kidney and electrolyte balance, digitalis continues to be the most important therapeutic approach directed to the fundamental cause of congestive failure, viz., the failing myocardium.

The proper use of digitalis has been called an art in itself, and this art has become greatly complicated by the increasing number of preparations available to the practicing physician, each claiming a specific advantage over the others.

It is pertinent, therefore, to review the action of digitalis, to take stock of the available commercial preparations and to discuss their dosage, the rapidity and duration of action, and toxic effects.

Some of the problems involved are illustrated by the following cases, to be presented by Dr. Lacy.

DR. WILLIAM W. LACY: This is Mrs. B. H., V.U.H. No. 211484, who is 47 years old and has been a patient in this hospital on a number of occasions. She was first seen here in 1929 at which time murmurs of aortic insufficiency and mitral stenosis and insufficiency were heard. Since that time she has had several episodes of polyarthritis and, for the first time, in 1942 noticed symptoms of cardiac failure. She was digitalized at that time and since then has taken digitalis irregularly. Four months prior to admission to this hospital she was seen at another local hospital and placed under digitalis, which she stopped six weeks ago. Seventeen days prior to admission to the hospital she was again given digitoxin, receiving an initial dose of 1.2 mg., followed by a daily dose of 0.2 mg. daily for the seventeen days. She developed some epigastric pain, right upper quadrant pain, nausea, vomiting, and, what she called, "neon flashing" in front of her eyes. She was seen in our clinic as a surgical emergency and because of abdominal pain, nausea, and

vomiting, was admitted to the surgical service. On admission, her radial pulse rate ranged from 36-60 per minute and there were many premature beats. She was seen in consultation and transferred to the medical service with the impression that she was suffering from digitalis intoxication. Her EKG showed auricular fibrillation with a slow rate of 36, with frequent ventricular premature contractions. Examination at the time of admission revealed murmurs of aortic insufficiency and mitral stenosis and insufficiency. The liver was felt two fingerbreadths below the costal margin.

In the hospital all digitalis derivatives were discontinued for a period of eight days—at the end of which time her pulse rate was 60. She received a mercurial diuretic and lost 12 pounds in weight. She was discharged from the hospital on 0.1 mg. of digitoxin every other day. Since that time she has felt well. She has had no return of the symptoms she had prior to admission, and her cardiac symptoms have been very minimal since discharge from the hospital two weeks ago.

DR. STRAYHORN: This patient developed symptoms commonly accepted as those due to digitalis intoxication within 17 days after receiving an initial dose of 1.2 mg. of digitoxin and being placed on 0.2 mg. as a daily maintenance dose. It should be pointed out that this amount of digitoxin has been advocated by some as the most effective means of "digitalizing" and maintaining the average patient.

Dr. Lacy, will you present the second patient?

DR. LACY: This patient, Mr. J. L. J., V.U.H. No. 238952, is a 55 year old white man who has had known hypertension for one year. He began to have symptoms of cardiac failure with orthopnea and paroxysmal nocturnal dyspnea and edema one month prior to this admission. When he was admitted to the hospital he had a blood pressure of 190/120, a diastolic gallop rhythm, and massive edema. Digitalization was started with digitoxin on the day of admission, and I have recorded the amounts received here (blackboard). On the first day he received 1.2 mg. of digitoxin orally. On the second day he received a total, in two doses, of 0.6 mg., and on the third day a total of 0.4 mg. of digitoxin. So, over a 72 hour period he had received 2.2 mg. digitoxin. His pulse fell from 130 to 100 with sinus rhythm. His weight fell from 225 to 203 pounds. On the fourth day of hospitalization he received 0.4 mg. and on the fifth day 0.6 mg. of digitoxin, for a total in the first five days of 3.2 mg. of digitoxin. His EKG had shown essentially no change during this time. He continued to receive rather large daily doses of digitoxin: 0.8, 0.6, 0.4, and 0.4 mg. and finally, for the remainder of his hospitalization, which

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was about six days, received 0.2 mg. digitoxin per day. During this period there was no evidence whatsoever of digitalis intoxication. And, over this period of time, he lost weight from his initial weight of 227 pounds to 178 pounds, and was discharged improved.

DR. STRAYHORN: This man, therefore, received a total of 6.6 mg. of digitoxin in 15 days with clinical improvement and without evidence, either clinically or by electrocardiogram, of toxicity. This, admittedly, is an unusual and extreme case, and dosages of this size are not usual, or advisable. These two cases are being presented here to emphasize the extreme variations that are seen in patients' tolerance to digitalis preparations.

I have asked Dr. Holland, from the Department of Pharmacology, to review for us the present day views of the actions of digitalis.

DR. WILLIAM C. HOLLAND: In the following table I have outlined some of the known pharmacological actions of digitalis:

- I. *Electrical properties*
  - A. Refractory period
  - B. Conduction
  - C. Monophasic action potential
  - D. Electrocardiogram
- II. *Mechanical properties*
  - Increase the force of contraction
- III. *Metabolic properties*
  - Increases oxygen consumption of intact hearts and tissue slices
- IV. *Permeability properties*
  - Modifies rather profoundly the permeability of the myocardium to Na and K ions
- V. *Stimulation of the vagus*

In order to explain the mechanism of action of digitalis it is necessary to search for some unifying principle. From investigations in this laboratory, as well as in others, it would appear that the effect of the drug on ion transport phenomena is the basis for the action of this important class of therapeutic agents. It is generally accepted today that the presence of concentration gradients across the myocardial membrane, as well as ion transfer processes that occur during various phases of the cardiac cycle, is responsible for the observed electrical properties of the myocardium. Furthermore, the presence of a favorable K ion concentration within the muscle fiber is essential for the normal functioning of the contractile apparatus (actomyosin — ATP complex) as well as certain key biochemical reactions in the oxidative phase of metab-

olism. In light of these suggestions, it is understandable why the digitalis glycosides have such a wide variety of pharmacological effects.

A few comments on the site of action of the digitalis glycosides may be of some interest. The available evidence today would indicate that the digitalis bodies act at or near the cell surface. There is considerable experimental evidence in favor of such a view:

1. Rapid action of the drug.
2. Demonstrable effects with very low concentrations of the drug.
3. Effect on membrane permeability.
4. The failure to demonstrate a consistent effect of the drug on isolated enzyme systems or other intracellular systems (mitochondria, microsomes, etc.)

DR. STRAYHORN: In discussing the action of the digitalis glycosides, Dr. Holland, I notice that you do not specify any particular one. I mention this before proceeding with a discussion of available products to emphasize one fact, viz., that you believe that the heart muscle reacts the same way to the whole leaf, digitoxin, Lanatoside C, and any of the others if the concentration at the moment is the same. The variable factors are the rate and completeness of absorption, the rapidity of action, and the toxic effects. The thought has permeated some reports, for example, that one preparation may be more specific for a particular condition, e.g., auricular flutter, than another, but there is no positive evidence that this is true. Am I correct in this statement?

DR. HOLLAND: I entirely agree.

DR. STRAYHORN: Since the time of Withering a search has gone on for a form of digitalis that would be predictable in its actions, in which the range between therapeutic and toxic dosage would be great, which would be stable and clinically pure, so that dosage could be determined by weight rather than by biological assay. As a result of this search we have many preparations available today. The relationship of these various preparations may best be seen on three slides to be shown. These, obviously, have sacrificed detail for simplicity.

Chart 1 indicates the family tree of the drug. On this chart, the products available today for clinical use carry a supernumerary indicating the year of its introduction.

These fall into six major groups: digitalis folia, digitoxin, gitalin, digoxin, Digilanid, and Cedilanid. Some of you may be surprised to find that the newest of these was

able to pharmacists, and I am sure does not include all. The Digitalis leaf preparations, particularly, are provided in many forms and under many trade names.

Obviously, the choice of preparation depends on many factors: the knowledge of potency of the preparation chosen, its speed of action, its duration of action, its toxicity, et cetera. Some of this data is shown in Table 2.

I, personally, prefer a whole leaf preparation for the majority of cases, especially for maintenance therapy. It must be remembered, however, that while the dosage of whole leaf products is standardized as carefully as possible, there will invariably be variations in potency and, therefore, the same product, whose strength one knows well from experience, should be specified and no changes should be made haphazardly from one brand to another in refilling prescriptions.

Digitoxin is preferred by many. It has the advantage of being tolerated in almost a full initial digitalizing dose without the



Chart 1

first introduced over twenty years ago and that digitoxin, which has had a relatively recent prominence, was first introduced by Nativelle in 1858.

Table 1 lists these six groups of preparations available for clinical use today, together with the year introduced and by whom, the source, and commercial availability. The latter was derived from listings in a wholesale drug supply catalogue avail-

Table 1

|                             | Digitalis Folia   | Digitoxin  | Gitalin                  | Digoxin                              | Digilanid                  | Lanatoside C (Cedilanid)   |
|-----------------------------|---|--|--------------------------|--------------------------------------|----------------------------|----------------------------|
| Year introduced and By whom | 1785<br>Withering   | 1858<br>Cloude Nativelle   | 1912<br>Kroft            | 1930<br>Smith for Wellcome Chem Work | 1933<br>Stall and Kreisler | 1933<br>Stall and Kreisler |
| Source                      | Digitalis Purpurea  | Digitalis Purpurea   | Digitalis Purpurea       | Digitalis Lanata                     | Digitalis Lanata           | Digitalis Lanata           |
| Commercial Availability     | 37 Companies<br>12 Capsules<br>25 Tablets<br>2 Pills<br>7 Injectable solutions<br>4 Powder<br>10 Tincture<br>5 Fl Ex<br>9 Trade Names | 22 Companies<br>16 tablets (0.2 mg.)<br>17 tablets (0.1 mg.)<br>2 ampules<br>7 Trade Names | 2 Companies<br>Two names | 1 Company<br>One name                | 1 Company<br>One Name      | 1 Company<br>One Name      |

Table 2

| PREPARATION                     | DIGITALIS LEAF              | DIGITOXIN                        | GITALIN                   | DIGOXIN                             | DIGILANID                 | LANATOSIDE C (CEDILANID)             |
|---------------------------------|-----------------------------|----------------------------------|---------------------------|-------------------------------------|---------------------------|--------------------------------------|
| DIGITALIZING <sup>IV</sup> DOSE | 0                           | 1.2 mg                           | 0                         | 1.0 mg.                             | 0.8 mg.                   | 1.6 mg.                              |
| ORAL                            | 1.0-1.8 Gm.                 | 1.2 - 2.2 mg                     | 6.0 mg.                   | 3.5 mg                              | 5.0 mg                    | 6.0 mg.                              |
| DAILY MAINTENANCE DOSE (ORAL)   | 0.1 Gm.                     | 0.1 mg.                          | 0.5 mg.                   | 0.5 mg.                             | 0.333 mg.                 | 1.0 mg.                              |
| SPEED OF ACTION <sup>IV</sup>   | 0                           | Rel. slow<br>Max effect 6-10hrs. | 0                         | Rapid 5-10min.<br>Max effect 1-2hrs | Not satisfactory          | Rapid 5-10min.<br>Max effect 1-2 hrs |
| ORAL                            | Slow<br>Max effect 24-36hrs | Slow<br>Max effect 10-12hrs      | Slow                      | Fast 1-2 hrs.<br>Max. effect 6-7hrs | Rel. slow                 | Slow<br>Irregular action             |
| DURATION OF ACTION              | Long<br>2-3 weeks           | Long<br>2-3 weeks                | Intermediate<br>7-10 days | Mod. short<br>3-4 days              | Intermediate<br>7-10 days | Short<br>1-3 days                    |
| TOXICITY                        | Great                       | Great                            | Low                       | Low                                 | Moderate                  | Low                                  |

nausea from gastric irritation that the whole leaf produces. As demonstrated by our first patient, the digitalizing dose of 1.2 mg. advocated by some seems too small and the maintenance dose of 0.2 mg. will be too much. There is difference of opinion regarding the development of toxic symptoms with less warning with digitoxin than with the whole leaf. As may be seen from table 2, the degree and duration of toxic symptoms are about the same.

Gitalin is said to have a greater spread between the therapeutic and toxic symptoms than any of the other drugs. I have had little personal experience with it.

Digitoxin has a low toxicity and a short duration of action. This is both an advantage and a disadvantage. It is a good preparation to use where there is an indication for full digitalization rapidly in a patient who has had a previous unknown amount. Should toxicity ensue it would be of short duration. It is a disadvantage for routine maintenance, since omission of the drug for a few days by the patient will cause a rapid loss of effective amount.

Lanatoside C (Cedilanid) occupies a unique position in that it is very rapid in action and suitable for intravenous administration. It occupies, therefore, first choice for rapid digitalization. Being poorly absorbed by mouth it is not suitable for maintenance therapy. Its action lasts only from one to three days, so replacement by a whole leaf preparation or digitoxin may be begun within twenty-four hours and continued until the usual digitalizing amount has been given within three or four days.

With so many choices, there will obviously be many differences of opinion as to the preparation of choice.

Dr. France, what is the method of digitalizing patients at the Thayer Veterans Administration Hospital?

DR. RICHARD FRANCE: At Thayer Veterans Administration Hospital we probably have as many different methods of digitalizing patients as we have residents. These come from different localities and bring different techniques with them. But, by and large, the majority tend to use either the powdered leaf or digitoxin. There has been, I think, in recent years a tendency to get away from the single digitalizing dose and, even when digitoxin is used, we are apt to take from 24 to 36 hours to digitalize

a patient, unless there is some great urgency. There has been with us a trend recently to start a patient on digitoxin for the first half of his digitalizing dose and then switch over to the leaf with the idea, perhaps erroneous, that there might be a little quicker initial effect. I think there is a little tendency to give the leaf as a maintenance dose, although we have one or two physicians who prefer digitoxin. For the patient in acute pulmonary edema, in whom a digitalizing effect needs to be obtained as rapidly as possible, all seem to be pretty well agreed on the use of Cedilanid—either giving one-half the average digitalizing dose at first and then repeating in 4 to 6 hours, or breaking the second dose and spreading the whole over three doses. Some of our staff like to give a long-acting digitalis product at the time Cedilanid is given; others wait until the next morning when the situation is not quite as confused before starting a long-acting preparation. I don't believe that any one drug or any set routine is necessarily any better than another. I think the important thing is to make up one's mind whether or not digitalis is indicated; if it is, one needs to know whether or not the patient has had digitalis before. Then, the drug should be pushed until there are signs of the desired effect or one is forced to give up because of toxicity. I don't believe that there are any absolute contra-indications to digitalis provided one had the indication for digitalization in the first place and provided there is no evidence of digitalis toxicity. By that I mean that certain arrhythmias which may have been considered contra-indications in the past may not be contra-indications unless they represent digitalis intoxication.

DR. STRAYHORN: Do you think that symptoms of nausea and vomiting occur sooner with the use of the whole leaf than with digitoxin and, for that reason, can better be used as a guide of approaching toxicity.

DR. FRANCE: I think there certainly is a local effect of the leaf when given in fairly large amounts and that this local effect may be absent when digitoxin is used. However, there is almost always a central effect and the usefulness of the local irritation as a guide has not impressed me.

DR. STRAYHORN: Dr. Riven, what do you think about this?



DR. SAMUEL S. RIVEN: I think the leaf is the safest of any of the digitalis preparations to use for maintenance, because it is my impression that nausea and vomiting do occur more consistently and furnish a warning of approaching toxicity.

Since other factors are utilized in the management of congestive failure, such as diuretics, sodium restriction, etc., it is my impression that a maintenance dose of digitalis must be somewhat modified to meet the individual needs of the patient. The toxicity of this drug must be borne in mind especially in individuals with refractory congestive heart failure.

I would like to ask Dr. Newman to refresh our memories as to the role of potassium in digitalis toxicity.

DR. STRAYHORN: Dr. Newman, will you comment on Dr. Riven's question?

DR. ELLIOT V. NEWMAN: It has been stated that the toxicity of digitalis in a patient who has had extreme diuresis with mercury was due to liberation of digitalis from the edema fluid. Recently, fairly strong evidence has been found that one of the reasons for digitalis toxicity appearing following the injection of mercurial diuretics is that a large amount of potassium may be excreted. In the presence of potassium depletion, digitalis is more toxic. It is well known that certain manifestations of digitalis toxicity, such as irritability and extrasystoles are relieved by the administration of potassium salts. Thus, there is a definite relationship between digitalis toxicity and potassium level. Patients who have the so-called 'hyponatremic syndrome' or 'low-salt syndrome' are particularly likely to lose more potassium in a mercury induced diuresis.

The question of contra-indications to digitalis was raised. I don't know if these are contra-indications, but there are situations where caution has been advised. One such situation, I believe, is ventricular tachycardia. I think that is still the rule, although I have seen digitalis used in patients with ventricular tachycardia when there was a lot of cardiac dilatation and cardiac failure. The secondary effects of ventricular tachycardia: namely, cardiac dilatation, pulmonary edema and failure may be helped by digitalis. The use of digitalis in ventricular tachycardia has always been approached with great caution. There is another area

where caution is used; namely, in patients with myocardial infarction. When extrasystoles and arrhythmias are likely to occur, digitalis may increase them. For the same reason, digitalis in patients with pericarditis may cause arrhythmias. With pericarditis (they refer to pericarditis as hematic pericarditis) digitalis is likely to cause auricular flutter or fibrillation. Another situation where caution has been introduced is after surgery on the chest. These post-operative patients have a tendency to develop auricular flutter or fibrillation. I think the surgeon or medical consultant should be certain that the administration of digitalis is really necessary in a chest case. There will be a high incidence of auricular flutter and fibrillation if digitalis is used too freely. Thus in pericarditis, in post-operative chest cases, in myocardial infarctions, and ventricular tachycardia we use caution in the use of digitalis.

DR. STRAYHORN: I am glad you brought up the question of the toxicity of digitalis in relation to potassium. This danger has been emphasized of late and will tend to exaggerate the importance of digitalis intoxication.

A distinction should be drawn between the mild symptoms of toxicity, such as anorexia, to be followed by nausea and later vomiting, which are so helpful as a guide in initial digitalization, and the serious symptoms with cardiac arrhythmias which may occur in the patient who has been in chronic failure, frequently mercurial resistant, who has had an unknown quantity of digitalis and suddenly diureses. In these cases, we must be cautious lest we be giving more digitalis to control arrhythmias which are a manifestation of digitalis intoxication.

In conclusion, two patients, each representing an extreme variation, have been presented to show that the administration of digitalis is still an art and not an empiric procedure.

The mode of action of the cardiac glycosides has been discussed.

Available preparations, with some indication for their use, have been reviewed. While these serve a specific purpose, and widen the range of usefulness of digitalis, they have not simplified its use.

Our criteria for therapeutic effectiveness have not changed since the time of Withering.

## CLINICOPATHOLOGIC CONFERENCE

### Baptist Memorial Hospital\*

#### Sclerosing Lipogranuloma

H. D. Woodson and M. L. Trumbull

Mr. R. H., a 31 year old, white, dairy worker, was first seen in April, 1949, complaining of "swelling of penis and a growth." The patient first noticed an itching on the left side of the penis, and then the penis began to swell. Then for one month he noticed a growth on the penis. This enlargement was more on the right side and extended up into the groin. There was some diminution in the size of the urinary stream, but the condition had not been painful. The patient had been working regularly. There had been no pain or burning on urination nor any frequency or urgency.

The pertinent *past history* revealed that the patient had always had only one testis, and in 1943 he had an abscess in the testis, which was opened and drained. It apparently healed completely, and the patient had no complaints until the onset of his present illness.

*Examination* showed the skin on the penis to be thickened, brawny, and hard. The corpora did not appear involved. The induration extended back to the base of the penis and up in tissues into the suprapubic area for a distance of several centimeters. Beneath the penis the induration extended down into the scrotum to near its tip, involving about the whole of the anterior portion of the scrotum. There was also a very hard, irregular nodule extending into the region of the testis on the right, but the examiner did not believe that the testis was involved in the lesion. Scattered throughout this indurated region, particularly on the scrotum, were whitish-appearing, hard plaques about 0.5 cm. by 0.5 cm. in size. The urologist's concluding remark was: "This condition is unusual." The patient's urine, blood count, and serological test for syphilis were negative.

The patient was admitted into the hospital for a scrotal biopsy, which was performed on April 14, 1949. At the time of biopsy, inspection of the penis after retraction of the indurated and edematous foreskin reveal an ostium, which connected with the floor of the urethra approximately 1 cm. proximal to the frenum. The biopsy was made through an elliptical scrotal incision, and the complete thickness of the involved region including overlying skin was removed. The removed tissue was firm, and it was adherent to the testis. The pathological diagnosis was, "Chronic granulomatous foreign body giant cell reaction to fat." The patient was discharged after six days with

no essential change in his condition. He had no fever during his stay.

The patient was next seen by another physician on June 21, 1949, at which time the penis was about four times its normal diameter. It also showed several sinus tracts opening onto the skin and some ulceration. An out-patient biopsy of the lesion was reported as "Actinomycosis, with chronic inflammatory reaction."

The patient was admitted to this hospital on August 29, 1949, and discharged on October 9, 1949. During this interval he was treated intensively with several antibiotics. Much of the swelling of the genitalia went down, and the sinus tracts healed to a great extent.

He was seen intermittently following this discharge until late 1952. During this interval various antibiotics were given, usually due to the development of some ulceration, but by and large, the patient's course appeared to be rather stationary. He was admitted to the Baptist Memorial Hospital for the final time on December 4, 1952, primarily for the purpose of excising a portion of the lesion. There was still present the rather marked, brawny induration and swelling involving approximately the proximal half of the penis and the right side of the scrotum. On December 5, a procedure was carried out with most of the dissection confined to the scrotal portion of the lesion.

DR. HOWELL D. WOODSON: We are dealing with a dermatological condition involving the external genitalia in a young man, age 31. The two biopsies mentioned in the protocol suggest a chronic granulomatous lesion. The exact type is not apparent even after reading the protocol several times. In the differential diagnosis I want to discuss several possibilities.

1. *Tuberculosis*: Tuberculosis of the scrotum and penis is very rare and it is nearly always secondary to a focus elsewhere in the body. A few cases have been reported following sexual intercourse with a woman suffering with genital tuberculosis. The tuberculosis ulcer is superficial, irregular, and greatly indurated in its base. Inguinal adenitis is usually present. Its appearance is not unlike carcinoma. The patient had an "abscess of the testis," probably an epididymal abscess, in 1943 which was drained and then healed satisfactorily. Had the epididymal abscess been due to tuberculosis, then the likelihood of spontaneous healing would have been extremely remote. The patient had no other symptoms referable to the urinary system, suggestive of tubercu-

\*From the Baptist Memorial Hospital, Memphis, Tenn.



losis. This possibility in my opinion can be dismissed.

2. *Actinomyocosis*: One biopsy was reported as "actinomyocosis with chronic inflammatory reaction." I would like to ask if "sulfur granules" were found or if a positive culture was obtained. This diagnosis cannot be accepted unless one or both of these criteria were fulfilled. This patient did live on a farm, and his lesions would certainly be compatible with cutaneous actinomyocosis. Unless further data is available, I will have to shelve this possibility.

3. *Blastomycosis*: This is another fungus infection capable of causing a chronic granulomatous lesion. The organisms are easily demonstrated in the discharging pus by adding a few drops of sodium hydroxide and examining the preparation under the microscope. Surely this possibility was considered.

4. *The Venereal Diseases*; namely, chancre (soft chancre), syphilitic chancre (hard chancre), granuloma inguinale, and lymphogranuloma venereum can cause penile lesions. Further discussion of these possibilities, in my opinion, is unnecessary.

5. *Chronic Paraphimosis*: Paraphimosis implies a condition in which undue pressure or strangulation is exerted on the glans penis. This condition, if chronic, may cause a chronic inflammatory reaction. This condition was evidently non-existent as this diagnosis would have been obvious.

6. *Carcinoma of the Penis*: This condition should be mentioned as a low grade tumor can grow into the lymphatics and produce chronic edema. The biopsies should have been diagnostic, if this condition existed.

7. *Paget's Disease*: This disease is customarily regarded as a lesion confined entirely to the nipple but numerous extra mammary cases have been recorded, most of them involving the penis and scrotum. The diagnosis is nearly always made by histopathological examination of the tissue from the diseased area.

8. *Elephantiasis* of penis will be mentioned for the completion of the discussion. It may be of two types: (1) the true tropical form due to infection with filaria and (2) elephantiasis due to stasis of penile and scrotal lymphatics from other diseases.

9. *Trauma and Foreign Body Reactions*:

Sexual neurotics may traumatize the penis over a long period of time sufficient to cause a chronic inflammatory reaction. Self-medication to the penis is common. No mention was made in the protocol of either possibility.

10. *Lipogranuloma*: One of the biopsies was reported as "chronic granulomatous foreign body giant cell reaction to fat." We all know that adipose tissue can be readily traumatized and such trauma may lead to foci of necrosis in which the fat cells are "exploded," their contents being dispersed and taken up by phagocytes which form a hard, compact mass that is usually pearly white and rather soapy and opaque. A febrile inflammation of the fatty panniculus known as "non-suppurative nodular panniculitis," has been described by Weber and Christian. In this disease there are multiple foci of acutely inflamed, painful tender fat nodules beneath the skin. Microscopic examination will reveal typical areas of fat necrosis with accompanying acute inflammation and possibly slight hemorrhage. Older lesions will exhibit extensive fibrosis. A lipogranulomatous lesion could explain most of the clinical findings this patient exhibited. This possibility, in my opinion, should be strongly considered.

As a conclusion, in my opinion, the patient suffered from a chronic granuloma of the external genitalia which, in all probability, is related to fat necrosis.

DR. HALL S. TACKETT: Thank you, Dr. Woodson. We have a number of possibilities to begin the discussion. It is now appropriate to have discussion from the floor. Do we have a volunteer to give us his opinion? Dr. Miller.

DR. FOX MILLER: I wondered if it is to be presumed that everything was proved, or is it to be questioned. Was there actinomyocosis microscopically? Should we assume that this is correct or should we say how was the diagnosis made? It makes a good deal of difference, and I think on the one hand if we accept it, then we should like to know another thing, that is, if the patient is living or dead now. If the patient is living, it would resolve itself into investigation of the organs that might be affected and the treatment that should be given. Of course, if he is dead, then it's trying to decide what



organs might have been affected and what should have been done. As far as tuberculosis of the skin is concerned, there is no mention of the lesion being warty or verrucous and most likely a tuberculosis of the skin in this area would be verrucous. What is helpful also is that it would be diagnosable microscopically.

Dr. Woodson said something about this man being a farmer. Well, I do not know, if he is referring to the old theory of chewing on a straw, causing actinomycosis or not, but in case he was, that is no longer believed to be true. One group of investigators cultured a large series of normal tonsils that were routinely removed from apparently normal children, and in over fifty per cent they were able to grow pathogenic actinomyces organisms, so that we no longer believe that this is true. I think several investigations have reported that frequently actinomycosis follows tooth extraction, and apparently the organisms are saprophytic, until they get a foot in the door. In the event that this is actinomycosis, presuming or assuming the possibility, we would like to know about sulfur granules. There is no mention of that. Surely the description fits the possibility clinically. The disease is rare, and although this happens, it just barely does because this is a rare manifestation of this disease. The cultures, of course, if it were actinomyces bovis, would have to be done with special media; it should be beef infusion glucose agar because the organism is an aerobic. There is no mention either of whether or not there was a chest X-ray. And in that case it would be unlikely this would be a Nocardia which is also an actinomyces, an aerobic organism, and would grow on a glucose agar. This should probably be considered. One biopsy report said there was a chronic foreign body giant cell reaction to fat. Well, that is a little puzzling, if we assume the other microscopic diagnosis of actinomycosis is correct. It makes you wonder if it is a reaction to some type of fat that was injected, paraffin or something of that nature.

As for blastomycosis, negative cultures would be helpful. The description of brawny infiltration is given in two or three places. It would seem very much against

blastomycosis although it would be a granulomatous process with ulceration, scarring, healing, and new raw areas, but there is not the wooden hardness and infiltration that one sees in actinomycosis. In my opinion the diagnosis lies between blastomycosis and actinomycosis, and I think that blastomycosis surely can be ruled out.

DR. TACKETT: We still have the opinion that it is a rare disease. Do we have any other comment? Dr. Schmeisser.

DR. H. C. SCHMEISSER: Was a circumcision performed on this patient,

DR. TACKETT: No.

DR. SCHMEISSER: I just want to bring to your attention a case that happened sometime ago at the John Gaston Hospital which aroused a great deal of interest. A nodule appeared on the end of the penis, and when it was removed, it was found to have silk inside and was a foreign body reaction since they had not removed the sutures from an old circumcision.

DR. TACKETT: Thank you, Dr. Schmeisser. Dr. Mayer, do you have any comment about this case?

DR. RAYMOND MAYER: Dr. Tackett, ladies and gentlemen: It is a little bit out of order for me to take part in the discussion since I happened to be one of the urologists who originally saw this patient and was involved in the first biopsy. Obviously, I did not recognize the disease, and after reading this protocol and hearing Dr. Woodson's very brilliant discussion of the various possibilities, I am still at a loss for a diagnosis. I think the injury which the protocol mentioned as occurring about the time this patient first noted the lesion on the penis might have been a factor in the etiology of the bizarre picture now presented. The possibility of chronic extravasation of urine in small amounts must be considered although the usual signs and symptoms of this condition were absent. At the original biopsy, the penis was about two times normal size, the skin being leathery in consistency, and the glands, Dr. Schmeisser, was obscured by an intact foreskin. It was necessary to perform a dorsal slit before the glands could be inspected at which time multiple fistulae were noted on the ventral surface of the urethra. There was an irregular indurated lesion measuring 3 by 4 cm.

in the region of the peno-scrotal juncture from which a full thickness segment was obtained for biopsy. The patient was allowed to return home while the results of the biopsy were awaited, and during the interim apparently he decided to cast his lot with others, as we heard nothing further from him until the protocol was received.

DR. TACKETT: Thank you, Dr. Mayer. I take it that you still do not want to retract your statement that this condition is unusual. Is there anyone else who would like to present an opinion about this condition? Dr. Miles.

DR. ROBERT M. MILES: I am a bit out of order in talking about the genitalia, but this reminds me of the report of a rare entity reported recently in the J.A.M.A., which followed an injury to the genitalia with a subsequent clinical course similar to this, and which was described as a sclerosing lipogranuloma. The patient under discussion may well have had actinomycosis, but in my opinion, the former should be given careful consideration, because it may present all of the symptoms and signs peculiar to this case. Certainly the report of a chronic granulomatous foreign body giant cell reaction with fat necrosis would be consistent with it. Thank you.

DR. TACKETT: Thank you, Dr. Miles. Anyone else? Dr. Vonnice Hall.

DR. VONNIE HALL: I have not seen this case, and I do not have the least idea of what it might be. However, I would like to suggest along with Dr. Miles a possible diagnosis. The changes in the histological section previously presented and the history of an injury occurring at the site of the lesion suggests necrobiosis lipoidica diabetorum. This type of eruption is most frequently seen on the anterior surface of the legs where injury is a frequent occurrence.

DR. TACKETT: Thank you, Dr. Hall. Anyone else? I do not believe we have any radiologic presentation of this case. If there is no further comment, we will ask Dr. Trumbull to relieve our curiosity.

DR. MERLIN L. TRUMBULL: One reason the case was selected was for its teaching value. Admittedly, it is not a common lesion, and as the protocol illustrates, we in the laboratory did not recognize the lesion

when it was first biopsied by Dr. Mayer. We think that it is the type of lesion that any one of you might see.

Dr. Woodson gave a very good discussion of the differential diagnoses that might be possibly considered, and I would like to first just go over the list roughly in the order that he presented them. First, in the reference to actinomycosis, we did not see the biopsy specimen on which that diagnosis was made. Therefore, it cannot be said now that there were no sulfur granules in it, and no cultures are known to have been made of that lesion. I would like to offer one comment about that diagnosis of "actinomycosis with chronic inflammatory reaction." Usually when actinomycosis is seen in tissue, there is an acute inflammatory reaction with it. I would expect that the patient would be much sicker if he had had actinomycosis of that duration. Tuberculosis, blastomycosis, carcinoma, and Paget's disease of that region were eliminated by the examination of the biopsied tissue. There was no suggestion of fungi of any form in the tissue. Elephantiasis was a good possibility, for with chronic obstruction of lymphatic channels one may develop a rather brawny induration sometimes largely confined to the penis and scrotum. The possibility of a foreign body reaction due to injection of fatty material was a good one to consider in view of the pathological findings. However, usually the reaction to injected fat does not progress in the fashion that this one had; that is, the reaction will usually be confined more or less within the region where the foreign material has been injected. In this case, we seem to be dealing with a lesion which progressed for a number of months if not a few years to a limit to which it now has been relatively stationary. That takes us to the possibility of lipogranuloma, Dr. Woodson's choice, with which we agree.

The tissue removed at the last operation was covered by intact skin, apparently from scrotum, and it measured up to 2.5 cm. across. The skin was firmly fixed to a thick subcutaneous mass of tissue, which measured 2 cm. in thickness, and which appeared sharply dissected on all margins. Fresh cut surfaces through the specimen disclosed a dense slightly yellow tissue,



which upon close inspection contained numerous pin-point sized cysts throughout the specimen. Microscopically, the thickened subcutaneous tissue (see Fig. 1) showed numerous ovoid spaces separated by varying amounts of fibrous stroma, numerous macrophages, a few giant cells, and some lymphocytes. Stains for fat revealed the presence of fat in the large vacuoles, macrophages and giant cells.

Dr. Miles referred to two cases reported by Galbraith and Young<sup>1</sup>. One of their cases looked and behaved clinically very much

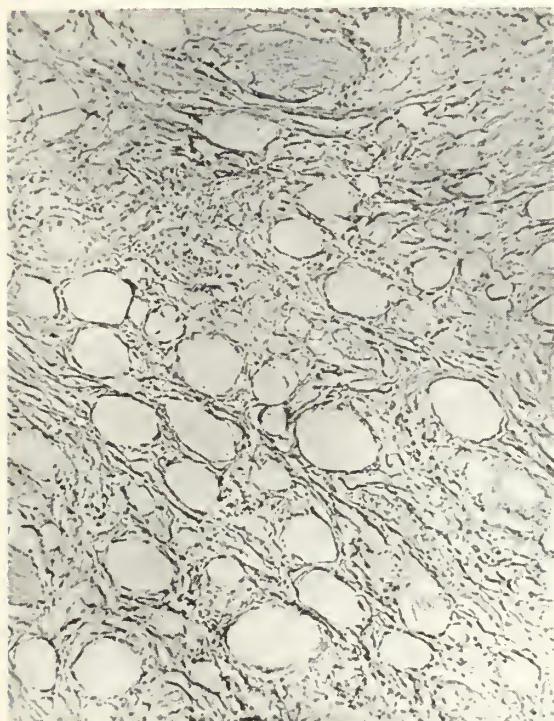


FIG. 1. Representative microscopic field in sclerosing lipogranuloma.

like this one except that the reaction extended to the man's nipple line and finally slowly subsided, but never became completely cured.

Histologically, this reaction is not at all different from that seen in Weber-Christian disease. However, most of the latter cases occur in women who give a history of recurring febrile attacks, and the lesions are usually on the lower extremities. I do not think that Dr. Hall would say that this extensive reaction or that this degree of thickening would be seen usually in cases of necrobiosis lipoidica diabetorum.

The nature of this lesion is not known, but it has been seen most commonly in the male genitalia, but also in the extremities, buttocks, retrobulbar fat, omentum, and retroperitoneal pelvic fat. Nobody seems to know what causes these, but since a number have followed known trauma, Smetana and Bernhard<sup>2</sup> felt that the trauma leads to local shock in the tissue, and this leads in turn to ischemia and finally necrosis. A strange feature about these is that the lesions are frequently quite extensive and extend well beyond the initial region of injury. These do not seem to heal spontaneously, and the literature shows that the only thing that has helped at all is local surgery and removal of all the diseased tissue.

#### References

1. Galbraith, B. T., and Young, J. M.: Sclerosing Lipogranuloma: Report of Two Cases, *J.A.M.A.* 150:1295, 1952.
2. Smetana, H. F., and Bernhard, W.: Sclerosing Lipogranuloma, *Arch. Path.* 50:296, 1950.

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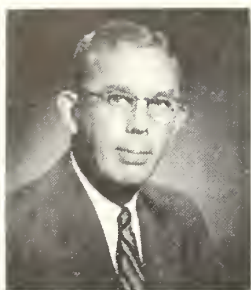
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## President's Letter



DR. TRABUE

On August 26, 1955, a special meeting of the Tennessee Public Health Council, the Governor's Advisory Committee, and County Health Officers from throughout the State, was held, to formulate a program for poliomyelitis vaccine distribution in Tennessee. One action of the Council was to formally approve the plan for the control of the voluntary distribution of the vaccine as previously recommended by the Governor's Advisory Committee. This plan was outlined and discussed on this page in July. Since that plan was recommended, Congress has appropriated thirty million dollars for the purchase of vaccine and this will be distributed to the various states. No one is able to estimate at the present time just how far this will go toward meeting the entire demand for those under 19 years of age and for pregnant women. It is certainly not enough to vaccinate 100% of this group, but there is nothing compulsory about this program, and it is quite doubtful if anything like 100% of those eligible will request vaccination. Another question that no one seems able to answer at the present time is just when will vaccine reach the open market and be available for purchase by the public. The general understanding is that this will not occur until after the government has spent all of its thirty million. So the matter of the mechanics of the voluntary distribution of the vaccine is not of much importance at this time.

The Public Health Council adopted the details of a policy to be followed by the State Department of Public Health in its distribution of the government purchased vaccine. The Council adopted the priority groups set up by the National Advisory Committee as follows:

- First Priority—ages 5 through 9 plus pregnant women
- Second Priority—ages 1 through 4
- Third Priority—ages 10 through 19

Vaccine will be made available to the first priority group, and then what is left over will go to the next priority group.

The State Department of Public Health will distribute the vaccine to the several County Boards of Health for administration by the local health services and/or distribution to local physicians to be administered to the age group approved by the D. of P.H. The decision is left to the *local Board of Health* (not the Health Officer) as to whether all of the vaccine will be used by the local health services or whether certain amounts of it will be available for the use of private physicians. It seems probable, from reports received at press time, that most of the counties will make some of the vaccine available for the use of physicians in their offices. To do otherwise would penalize those patients who desire service from a private doctor rather than from a public health agency. Physicians who receive this government vaccine must agree to give the vaccine without any charge to those who are medically indigent and to charge others only for services and not for the vaccine itself, to give it only to those in the designated priority group and to make a record of each case on a card furnished with the vaccine. These stipulations are in line with a recommendation of the A.M.A. They may prove irksome to some physicians but they at least provide a means by which the private physician may obtain vaccine for his patients without waiting indefinitely for it to be placed on the market. If there is any abuse of these regulations, then it is likely that the entire profession will suffer from adverse publicity in this program, which has from the beginning been influenced so much by emotion and sentiment and which has such a constant appeal to the press. Any unreasonable charge for services or refusal to vaccinate an indigent will be considered an abuse. There is no doubt that our actions will be watched by those who feel that the entire program should be handled through public health channels.

A few months ago a very commendable job was done by volunteer physicians who

(Continued on page 354)

# THE JOURNAL

OF THE  
TENNESSEE STATE MEDICAL ASSOCIATION

Published Monthly

Devoted to the Interests of the Medical Profession of  
Tennessee

Office of Publication, 321-325 Doctors Building, Nashville,  
Tenn.

Acceptance for mailing at special rate of postage provided  
for in Section 1103, Act of October 3, 1917,  
authorized July 15, 1932.

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SEPTEMBER, 1955

## EDITORIAL

### ACCIDENTS IN CHILDHOOD

Accidents kill more children every year than poliomyelitis, heart disease, pneumonia, leukemia and tuberculosis combined; last year the toll exceeded 10,000.

The marked progress made in safeguarding the life and health of children reflects in large measure the advances in medical science and public health administration, as well as a general rise in our standard of living. We doctors can now immunize children against diphtheria, whooping cough, tetanus, smallpox, typhoid fever, typhus, yellow fever, cholera, mumps, influenza and rabies. But there is no magic vaccine against accidents. The child's immunity from accidents depends entirely on his parents.

Whenever this responsibility is suggested to some parents the immediate reaction is a look of distress. "But I can't think of everything!" they say. And that is right, they can't think of everything but should cer-

tainly think of the more common things. Very common things like automobiles, (they killed 4,500 children in 1952) pools, cisterns, streams, wells or other bodies of water suitable for drowning (2,050 children were lost in this way); fires (1,950); falls (650); and poisons, especially those in attractive bottles left within tiptoe reach (650); head the list.

If a parent must worry, these are the things to worry about,—not thumb-sucking or clean ears, or dancing lessons or school grades or clean teeth; not even poliomyelitis or pneumonia. The most important thing is to keep his child alive and uncrippled. It is simply a matter of putting first things first.

Preventing accidents to a child requires the proper amounts of protection and education. After all protection is just to keep a child alive and unharmed while he is taught to take care of himself. During the first year he must be provided with 100 per cent of protection and after that he must receive less and less protection as he gets more and more education.

Accident prevention at home demands three essentials: forethought, time and discipline.<sup>1</sup> Forethought demands that at any age the child's interests and abilities be anticipated. Considering those curiosities and capabilities, a prediction of the child's probable conduct should indicate what protective measures will be necessary, and in what areas of activity instruction will keep him out of serious accidents.

A year old baby is hardly prepared for the complexities and artificial rules of the world within his reach. He can be expected to reach every closet and cupboard in the house,—to indiscriminately taste, touch, chew, pull on, jerk, bite and swallow every article he can reach, put his foot or head into every situation and every machine he can find. If he is normal, he will also be unafraid of water, even if it is 3,000 feet deep; undeterred by autos and tractors, even if they are 3,000 pounds heavy; and ignorant of the potentialities of fire, even if it is 3,000 degrees hot.

(Continued on page 346)

<sup>1</sup>Dietrich, H. F.: Accident Prevention in Childhood Is Your Problem, Too, Pediatric Clinics of North America, 759, November, 1954.

# — Announcement —

1955

## SYMPOSIUM POSTGRADUATE EDUCATION

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THE TENNESSEE STATE MEDICAL ASSOCIATION

☆ ☆

WHAT — WHEN — WHERE

SUBJECTS:

### "Rheumatic Fever"

|                       |              |
|-----------------------|--------------|
| Shelbyville . . . . . | September 28 |
| Columbia . . . . .    | September 29 |
| Cookeville . . . . .  | October 19   |
| Clarksville . . . . . | October 20   |

### "Jaundice"

|                       |            |
|-----------------------|------------|
| Cleveland . . . . .   | October 25 |
| Oak Ridge . . . . .   | October 26 |
| Greeneville . . . . . | October 27 |

### "Traumatic and Emergency Surgery"

|                     |            |
|---------------------|------------|
| Jackson . . . . .   | December 7 |
| Dyersburg . . . . . | December 8 |
| Memphis . . . . .   | December 9 |

☆ ☆

Registration Fee—\$3.50

for 1955 Course



## TIME:

The Courses will be presented in each Center from 4:00 p.m. to 6:00 p.m. in the afternoon, with an hour intermission for a dutch dinner, from 6:00 to 7:00 p.m. and concluded with an evening session lasting from 7:00 to 9:00 p.m.

## The Faculty

### "Rheumatic Fever"

S. Fred Strain, M.D., Memphis; Lewis F. Preston, M.D., Oak Ridge;  
W. K. Swann, M. D., Knoxville.

### "Jaundice"

J. H. Chandler, M.D., Jackson; Harrison Shull, M.D., Nashville, L. W. Diggs, M.D., Memphis.

### "Traumatic and Emergency Surgery"

James L. Southworth, M.D., Knoxville; Greer Ricketson, M.D., Nashville;  
George Inge, M.D, Knoxville.

Much thought and careful planning has been given to the new symposium type postgraduate education program sponsored by the Tennessee State Medical Association. The Symposium Committee has arranged for the presentation of the subjects due to the fact that these subjects received the greatest demand for presentation.

The symposium has been designed to render the latest available information on the subjects to all doctors, and they will be of considerable aid to General Practitioners as well as specialists.

•

Your expenses incurred in attending the courses are tax deductible. The symposium is approved by the American Academy of General Practice for formal credit, which should be of especial interest to all General Practitioners.

The registration Fee of \$3.50 entitles you to attend any of the courses presented in the centers listed. The registration fee does not include dinner inasmuch as the hours intermission provides for a "dutch dinner."

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Therefore the parent must protect him by making it impossible for him to contact these damages known to be present.

As a child grows older he must have training in safety, and protection then gradually gives way to education. This can be done best by carefully selected minor mishaps. After appropriate warnings let him learn that hot things burn. Let him, by tasting mustard and vinegar, learn that not everything in a bottle or dish is palatable. Let him find out that he is not unsinkable and let his finger get caught in the egg beater. By doing this he may learn that whirring machinery is painful and may never put his fingers into an electric fan.

Of course such an attack on accident prevention takes time. It takes time to do the countless things a parent must do to bring up a child, from sterilizing bottles, brushing teeth, and pressing dresses, to reading books on child psychology, discussing shoes with the salesman and arguing about vitamin therapy with the next-door neighbor. On what more important subject than accident prevention can time be spent.

Discipline must serve where reason can not. The child must learn that certain things threaten his safety, and it is because of his parents love for him that discipline is invoked.

Physicians must impress parents with the importance and practicability of accident prevention. Each physician must assume responsibility for counseling his own patients and preferably assume community leadership in waging the fight for prevention of accidents in childhood.

A. B. S.



#### THE NEW POSTGRADUATE PROGRAM

In this issue of the Journal appears the notice of the first offerings under the new postgraduate program of the Tennessee State Medical Association. The House of Delegates, after affirming its interest in, and insistence upon the continuation of a postgraduate program by the State Association, made a wise decision in authorizing a change in the methods employed.

As has been pointed out previously on these pages, a "circuit-riding" type of postgraduate instruction was begun in 1937 with

the generous assistance of the Commonwealth Fund, the Department of Public Health and the medical schools of the University of Tennessee and Vanderbilt University. Upon the withdrawal of the support of the Commonwealth Fund, the House of Delegates of the State Association authorized the expenditure of Association Funds to maintain the program.

To recapitulate further, especially for the benefit of the younger members of the profession, this postgraduate program was most successful in bringing to all sections of the state a lecturer for ten sessions, once in two years,—the lectures dealing with one field in medicine.

Of the value and contribution the "circuit-riding" course made to the practice of medicine in Tennessee there can be no question. But excellence does not preclude change. Though the Pony Express offered an excellent means of the quickest possible dispatch at one time, we do not now disdain the use of Airmail.

One must recall what has happened since 1937 in medicine,—the antibiotics, new hormones, advances in anesthesia, expanding knowledge of electrolyte balance, and the application of new laboratory technics. Does not this expansion of knowledge deserve attention more than once in ten years as applied to a given field! In the "circuit-riding" course an internist, let us say, was employed to give ten lectures in the several centers of the state during a two year period. Successive two-year periods devoted to obstetrics, surgery, pediatrics and psychiatry postponed the formal presentation of advances in medicine for ten years which is entirely too long. There is another incontrovertible point,—more physicians are making use of the postgraduate facilities of schools, postgraduate assemblies and medical meetings than in 1937, changing the pattern of postgraduate educational needs.

It would seem, then, that in this day and age the "circuit-riding" course of the formal presentation of a subject in ten lectures once in ten years should be superseded by some program whereby new advances might be brought to the attention of the practitioner at more frequent intervals. Within a matter of months, rather than years, a discussion on some bit of new knowledge

should be made available. The new program offers this flexibility which is so essential to keeping abreast of a fast-moving medical science.

The Committee on Postgraduate Instruction is offering its first program in coming weeks. No doubt there will be "bugs" to be worked out as it gains momentum. It is the duty of the instructor to give his best. It is the duty of the student to stimulate the instructor by question and discussion. The student should be reminded that knowledge resides not only within the cranium of the stranger who comes from a distance to lecture. This same knowledge, and even more, may be contained in the mind of some one with whom the student is familiar, —possibly living in the next block. The student will need at first to school himself to accept from his neighbor that which he has been too eager at times, to accept from a stranger. Let us hope that the Committee on Postgraduate Instruction and the students will not conclude that "A prophet is not acceptable in his own country, neither doth a physician work cures upon them that know him."

R. H. K.



## Special Item

*It is important that the medical profession of the state be aware of the actions taken by the Public Health Council relative to the vaccination program against poliomyelitis. A condensation of the minutes of its meeting appears below.*

Editor.

## Conference on Poliomyelitis Distribution and Vaccination Program

"A special meeting of the Public Health Council was called for August 26, 1955, conjointly with the Governor's Advisory Committee, the County Health Officers, and a medical representative from each of the eight counties in which there is no organized county health department, to formulate a Plan to be submitted to the U. S. Public Health Service on our poliomyelitis vaccine distribution program. There are certain questions that must be answered by the Public Health Council in order to prepare the Plan for submission by the State Department of Public Health, and following that, the County Health Officers are going to have to submit their plan, answering questions concerning this Plan when they get back home."

The questions posed were answered by

the following motions which were passed. The first, that

"The Public Health Council approve the policy of statewide vaccination for poliomyelitis in accordance with a general plan to be developed by the council and administered by the State Department of Public Health."

Dr. Hutcheson read the report of the Advisory Committee to the Governor as follows:

1. It is suggested to the Governor that he request the State Department of Public Health to query each county in the state to determine what per cent of the vaccine allotted to that county out of Tennessee's allotment will be purchased by the county or other public agency for the vaccination of indigent children in the area.
2. Assuming that the manufacturer will distribute the remainder of the vaccine through his normal wholesale outlets, and distribution from wholesalers to retailers shall be according to the following plan:
  - (a) The State Department of Public Health will from time to time notify each County Board of Health or its designated agent of the amount of vaccine allocated to that county at that time (this allocation will be made on the basis of a priority age formula).
  - (b) The retail druggist shall from time to time secure from the County Board of Health or its designated agent an authorization for purchase of vaccine based on an equitable distribution for all druggists of that county.
  - (c) The retail druggist must send with his order to the wholesaler a copy of the authorization for purchase.
  - (d) The wholesaler must keep on file these authorizations as evidence of sale.
3. The retail druggist fill and distribute the vaccine only on a prescription by a physician which shows the date, name, age, and address of the person to be vaccinated.
4. That in the administration of the vaccine each physician shall keep an accurate record of the name, age of the child, the date of administration, the site of inoculation, the lot number of the vaccine and the name of the manufacturer. This recommendation is made as a parallel suggestion with the approval of the American Medical Association.
5. It is the strong recommendation of the committee that during the period of short supply that no manufacturer shall ship vaccine into Tennessee except to the duly registered wholesale distributor.

This plan was unanimously adopted.

Dr. Hutcheson stated that the need to consider the age group that would have priority in the vaccination program. The



National Advisory Committee has set up age groups as follows:

First priority—ages 5 through 9 plus pregnant women

Second priority—ages 1 through 4

Third priority—ages 10 through 19

Dr. Croswell, of the Advisory Committee, stated that the pediatricians had agreed to go along with this plan.

Dr. Hutcheson explained that on a voluntary plan of distribution the first vaccine will be made available to those in the 5 through 9 year age group inclusive and pregnant women, and until that group has been vaccinated, the vaccine will not be made available to other groups. This was further clarified by stating that this means through age 9 to 10th birthday.

The National Advisory Committee recommended age group 5 to 9 as this group has the highest percentage of poliomyelitis. (In Tennessee two age groups are approximately the same as follows: under 5, 53 per 100,000 population; 5 to 9, 51 per 100,000 population.)

Vaccine will be made available to first priority group, and then if they decline, what is left over will go to the next priority group. Dr. Hutcheson stated that there is going to be available somewhere between 800,000 and 1,000,000 doses depending upon the cost. It was realized that the age group 5 to 9, being concentrated in schools throughout the state, could be given the vaccine more readily than the age group 1 to 4.

The following motion was passed by the Council:

"That the priority group for first consideration will include those children from 5-9 inclusive, including pregnant women, and that the second priority group will include ages 1 through 4, and that the third priority group will be from 10 through 19 years of age."

Dr. Hutcheson stated that the State Department of Public Health will be responsible for keeping local health units advised as to policies and developments in the program, and that information will be made available to the press in order that the public may be notified. Mr. Ballentine, the State Medical Association representative, stated that they will make the information available to the counties through their

Journal. Dr. Sharp, representing the Tennessee Pharmaceutical Association, stated that the information would be made available to the druggists. Dr. Oliver stated that the Dental Association would be notified.

The ways in which the State medical associations, county medical societies, State pharmaceutical societies and other professional groups will participate in the intra-state vaccine distribution program was discussed.

Dr. Hutcheson stated that in testifying before the Senate Committee he advised them that should this vaccine be made available to Tennessee he would recommend to the Public Health Council that the State Department of Public Health allot this vaccine to local health departments for distribution by the county health departments and that it probably would be made available to private physicians through the county health departments and that the private physician would not charge for the vaccine, but if the parents were able to pay, the physician could make a charge for professional service. He further stated that regardless of ability to pay, the Senate Committee was assured that no child would be denied available vaccine. Dr. Hutcheson recommended that the Public Health Council adopt some similar plan. A motion to this effect was passed as follows:

"That the poliomyelitis vaccine or funds for the purchase of vaccine be allotted by the State Department of Public Health to the several County Boards of Health for administration by the local health services and/or distribution to local physicians on proper requisition to be administered to the age group approved by the State Department of Public Health."

It was agreed that the Public Health Council will not go on record as setting a fee for the amount that physicians will charge, as this question is to be settled in the counties, by the physicians. The State Medical Association has assured us that its members will give the vaccine to any person who is not able to pay. The Public Health Council is setting up general policies that the County Health Departments will follow. The County Health Departments, through their Boards of Health, are asked to submit a program Plan to Dr. Hutcheson,

Commissioner of Public Health, and this Plan must be adhered to by all physicians. Since there are eight counties in which there are no organized health departments, the State's Plan should state that the State Department of Public Health will send vaccine to the official full-time health departments or officials designated by the County Board of Health in unorganized counties.

Dr. Hutcheson stated that the manufacturers agree with everything recommended by the Governor's Advisory Committee except that of limiting the distribution to wholesalers. (This question refers to vaccine available for general public distribution—not that to be purchased with funds appropriated by The Congress.) The Council moved and adopted:

"That the Governor's Advisory Committee's recommendations be adopted by the Public Health Council as read by Dr. Hutcheson."

This plan will be in effect only while supply is short.

Concerning the type of records to be maintained by physicians, pharmacists, local health units, and other and the utilization of such records by the State agency, Dr. Tucker explained that a 3x5 card is to be furnished to the County Health Departments who will in turn supply the physicians with these cards. Information required on the card will be name, address, age, lot number, manufacturer, site of inoculation, et cetera. Summary reports as needed will be required. The Council agreed unanimously,

"That such ways and means to implement this be made."

The cooperation of physicians in adhering to priority groups will be maintained by action at the last meeting of the House of Delegates of the State Medical Association. A motion was passed,

"That the House of Delegates' resolution be adopted and filed as an exhibit to these minutes."

The explanation was added and passed,

That in general the resolution by the House of Delegates approved the Scientific Administration of the vaccine; recommended to the Public Health Council and the Commissioner of Public Health that a plan for the administration of the vaccine when available be developed; that the physicians of the state be included in the plan; and assured the council and the public that no child would be denied

available vaccine because of his parents' inability to pay for professional services.

To assure equitable distribution of vaccine throughout the State, Dr. Hutcheson recommended straight population allocation. It was explained that the records in the State Department of Public Health will show at all times how much vaccine has been given and how much is in the county. Vaccine will have six months expiration date. The Council agreed

"That Dr. Hutcheson and his assistants be given authority to distribute this vaccine as they think most equitable based on the specific age group in each county."

There is the question as to who will determine which child in an age specific group will receive the vaccine. Dr. Hutcheson explained that this is a question to be determined in the county, as the Federal law prohibits a means test to determine which children should receive the vaccine. This is a question to be determined by the counties, and until they have done this, and submitted their Plan, no vaccine will be sent to them.

Any child between the age of 5 to 9 is eligible and not just the indigent. The decision is being left up to the physician and the local health department to determine who is able to pay, assuming that the vaccine will be used for the ones who are least able to pay. The Council adopted a motion, as follows:

"That the State Department of Public Health distribute the vaccine to the County Health Departments, and to the Official Board of Health where full-time departments do not exist, and that the local Boards of Health be given responsibility for developing their own plans within the limits of the state regulations on this."

Dr. Hutcheson recommended that the State Department of Public Health not operate any clinic, but that clinic operation be left entirely to the counties, the State Department cooperating, and that the procedure be included in the county Plan, and also the decision as to whether or not the vaccine will be administered by the County Health Department or by private physicians or by both be specifically detailed in the Plan. This will include eligibility requirements for the individual. In counties where there are unorganized health departments, money will be available to employ nurses



and physicians, but it is questionable whether or not personnel can be found. The question was asked if this is to be a permanent or temporary procedure. The reply was that this probably would be changed when more vaccine is available. And the question asked was if the counties will have authority to withhold vaccine and not pass it out to private physicians. Dr. Hutcheson replied that: This decision by State law must be left to the Local Board of Health and not the local County Health Officer. The county health departments can hold clinics if they desire and if included in their plan. The Council adopted a motion,

"That the decisions regarding clinic organization and vaccine administration by private physicians be left to the County Boards of Health."

Dr. Hutcheson explained that nothing had been done in the way of budgeting funds: a total of \$987,214 is available for allocation; \$123,400 may be used for distribution and administrative expenses, with \$863,814 for purchasing vaccine. Of the \$863,814 there may be used \$143,969.00 for planning and conducting vaccination programs or for the purchase of vaccine. Dr. Hutcheson recommended that this total amount be used to purchase vaccine and not withhold any for other purposes. This money is available until February 15, 1956, after which time it reverts to the Treasury of the United States Government. The Council unanimously agreed,

"That this be used as Dr. Hutcheson recommends."

Dr. Hutcheson asked for authority to budget the money included in the \$123,400.00 general health service appropriation and say just how the money will be allocated between the state and local services. Furthermore, he had called Dr. Roberts, Dean of the School of Medicine, University of Tennessee, to see about employing students who are graduating, to administer vaccine. It was moved and adopted.

"That this money be left to the discretion of the Commissioner to appropriate in the best and most efficient manner he feels advisable."

It was pointed out that vaccine is going to be allocated on a ratio basis as it is manufactured, and can be bought direct from the factory at a price unknown at this time.

Money would have to be requisitioned from the U. S. Public Health Service, set up on our books, and later the U. S. Public Health Service would have to audit our books, or we can ask the Public Health Service to buy the vaccine from the manufacturers and in that way they may be able to get a better price per unit of vaccine, also we shall avoid the cost of accounting. Dr. Hutcheson recommended that we ask the Public Health Service to buy the vaccine for us and ship it prepaid from the manufacturer. This recommendation was passed by a motion,

"That this be purchased as outlined by the Commissioner."

Subsequent to the meeting of the Public Health Council, Dr. Hutcheson met with the County Health Officers and representatives of County Boards of Health to discuss some of the details that would help them when they returned home.

## DEATHS

**Dr. W. T. Michie**, 83, Memphis, died July 28th at Baptist Hospital in Memphis.

**Dr. A. Ellis Goodloe, Sr.**, 69, Chattanooga, died August 2nd at his home.

**Dr. Virginia Shepherd Clinton**, Bluff City, died July 26th in Memorial Hospital at Bristol. She had been ill for some time.

**Dr. A. F. Branton, Sr.**, 69, Chattanooga, died July 26th at Erlanger Hospital. Dr. Branton was formerly the Administrator at Erlanger Hospital.

**Dr. Isaac Greenwood Duncan**, 70, Memphis, died July 24th at his home. His death was attributed to a heart attack.

## PROGRAMS AND NEWS OF MEDICAL SOCIETIES

### Knoxville Academy of Medicine

At its regular meeting on August 9th the program consisted of "An Interesting Case Report" by Dr. John Kesterson. The society members also heard an interesting discussion on "The Laymen Criticism of Medical Care from the Sociologic Economic and Religious Approach". Dr. R. B. Wood was the moderator.

### Memphis-Shelby County Medical Society

The Memphis-Shelby County Medical Society held its dinner meeting at the Mem-



phis Country Club on July 5th. The scientific session consisted of a panel discussion on "Diseases of the Stomach." Dr. Clarence Gillespie acted as moderator. Dr. Alvin J. Cummins, Dr. George Bale, Dr. J. Malcolm Aste and Dr. Marvin Keirns participated as panel members. 270 members of the Society were in attendance.

### Roane County Medical Society

The regular monthly meeting of the Society was held on July 26th at the Oak Ridge Hospital. The program consisted of reports given by officers of the Tennessee State Medical Association. Dr. Charles C. Trabue, IV, President, gave a factual report on activities of the Association and Mr. J. E. Ballentine, Executive Secretary, reported on activities in the Headquarters Office and "A Physician's Relationship with the Community in which he practices".

### Chattanooga-Hamilton County Medical Society

The regular monthly meeting was held on August 4th and the program consisted of a panel discussion on "Shoulder Pain". The panel consisted of the following: Moderator, Dr. Robert C. Roberts; Orthopedics, Dr. George W. Shelton; Medical Aspects, Dr. Merrill S. Nelson; X-Ray, Dr. George K. Henshall; Neurologic Aspects, Dr. Warren H. Kimsey.

## NATIONAL NEWS

Congress closed its first session with many Health Bills pending. There was a last day compromise on a Grants Bill to aid states in paying for Salk Vaccine Programs through next February 15. Three days previously, Senate and House finally agreed on \$30,000,000, for financing of inoculations.

Adjournment found two medically important Bills at the half-way mark in Congress: the Hill-Bridges \$90,000,000 Grants Bill for Construction of Research Facilities, and the Democratic sponsored National Compulsory Disability Insurance Plan (passed the House and pending in Senate Finance Committee). Still before committees but with hearings completed are: the Jenkins-Keogh Tax Deferment Bills and Federal Aid to Medical Education.

Other Bills facing Congress on its return in January are: AID TO NURSING EDUCATION, DEPENDENT MEDICAL CARE, CONTRIBU-

TORY HEALTH INSURANCE FOR FEDERAL WORKERS, MORTGAGE GUARANTEES FOR HEALTH FACILITY CONSTRUCTION, REINSURANCE OF VOLUNTARY HEALTH PLANS, MILITARY MEDICAL SCHOLARSHIPS AND PRACTICAL NURSE TRAINING. Health Bills, President Eisenhower reminded a press conference, should be handled as soon as Congress comes back.

The Doctor-Draft remains in effect another two years until July 1, 1957. In the two major changes from the old Act, the new Law lowers from 51 to 46 the age limit for call-up physicians and provides that any physician rejected for a medical commission for solely physical reasons shall no longer be liable on reaching age 35. The \$100 a month special pay for physicians in uniform is continued for four years.

As reported that during the first quarter medical legislation had a great deal of interest and support in Congress. That picture changed markedly from the first quarter up to July 1st. The changed atmosphere can be explained only partly by the usual legislative obstacles, such as economy and legal complications. Another explanation is that the key health committees were engulfed in Salk Vaccine hearings and investigations for many weeks. Activity on Vaccine took so much time that Congress was not able to process many health bills before adjournment.

The AMA Washington Office lists the following medical Bills as the most important discussed during the 84th Congress. They are: (1) Salk Vaccine; (2) Disability Insurance; (3) Doctor-Draft Extension; (4) Military Medical Scholarships; (5) Military Dependents; (6) Federal Aid to Medical Education; (7) Mental Health Survey; (8) Federal Employee Health Insurance; (9) Tax Deferment; (10) Resolutions on Treaty Power (Bricker Amendment).

### U. S. Hospitals Care for More Patients Than Any Previous Year

United States hospitals cared for 20,345,431 patients in 1954, more than in any previous year, the American Hospital Association announced. A total of 3,342,599 babies were born in U. S. hospitals last year, a rise of 233,529 over the 1953 total.

The nonprofit general hospitals which are for the great majority of the acute, short-term cases in the nation spent \$22.78 every day for each patient. This represented an increase of \$1.60 over 1953. The average cost per patient stay in these hospitals in 1954 was \$171 compared with \$160 in 1953. There was an increase of only 107 per cent in the cost per stay between 1946 and 1954.

More than 275,000 professional nurses provided service in hospitals in 1954. This included more than 245,000 hospital employees and nearly 30,000 private duty nurses. As compared with the 1953 data, the 1954 figures showed more than 6,000 additional practical nurses.

Other facts released by the Association were:

1. The average patient stay in the short-term general hospital was reduced again in 1954 as it has been in the past several years. The average stay in these hospitals in 1954 was 7.8 days against 7.9 days in 1953 and 9.1 days in 1946.
2. One out of every eight persons in the United States will be a hospital patient in 1955, based on the 1954 records. Forty-nine percent of all U. S. hospitals were non-profit, 19 percent were proprietary, and 32 percent were operated by agencies of federal, state or local government.

Sixty-one percent of all U. S. hospitals had more than 50 beds, 39 per cent had more than 100 beds, 14 percent more than 300 beds, and 8 percent more than 500 beds.

The 430 Federal hospitals, representing 6 per cent of all U. S. hospitals had a bed complement of 189,233. The 171 Veterans Administration hospitals included 117,514 beds, or 62 per cent of the hospital bed total operated by the Federal government.

## MEDICAL NEWS IN TENNESSEE

### New State Law Affects Death Registration

The Vital Statistics Law was revised by the 1955 Legislature. The Law requires that all deaths and stillbirths shall be registered within 72 hours. Under the old Law, it was the responsibility of the funeral director to register deaths within 72 hours. Now the physician is required to give the cause of death, sign the certificate and return it to the funeral director within the prescribed 72 hour period. The new Law provides that the last doctor to treat the deceased is to determine the cause of death and sign the certificate. This change alone will provide for the reporting of truer causes of death.

The new law provides, also that only one certificate can be executed for each death or stillbirth. This provision will prevent duplication of records and will avoid certification of facts not shown on the original certificate of death or stillbirth on file in the Division of Vital Statistics, Tennessee Department of Public Health.

### Regional Blood Program Committee Meeting

The Medical Advisory Committee for the Regional Blood Program for Middle Tennes-

see met in Sumner County at the Blue Grass Country Club on July 12. Dr. Carl McMurray of Nashville was the principal speaker. He outlined the purpose of the committee, composed of a doctor from each county in the region, as a special representative for their respective counties to keep their local medical group informed and alert to the constant and continued need for blood. Dr. McMurray urged the group to continue their support of the Red Cross Regional Blood Center by helping the people in their counties to keep aware of the importance of pre-placement and replacement of blood.

Dr. John Wallace, Chairman, led an open discussion on benefits of a Regional Blood Center.

### Aiding Physicians Favor City Ambulances

An emergency ambulance program, to be city-owned or sponsored, has been recommended to city officials by the Memphis and Shelby County Medical Society. A resolution asking that the exact type and details of such a program be worked out in consultation with City Officials, was adopted at a recent meeting of the Society's House of Delegates.

Police officers for drivers and trained medical orderlies were recommended for the proposed city ambulance service. First aid on the spot is more important than speed by ambulances to get sick or injured persons to hospitals.

### Medical Society Acts on Negro Physician Membership

Negro doctors may become members of Memphis and Shelby County Medical Society, under action taken at the Society's recent meeting. The Medical Society's House of Delegates altered the Constitution to allow "special regular members". Under the new amendment, negro doctors may apply for membership.

The Society's Chairman of the Public Relations Committee, stated that Negro doctors would be accorded full voting and membership privileges under the new amendment. He said negro doctors would be able to hold office in the society.

The amendment provided that attendance at social functions will be by invitation only.



## University of Tennessee College of Medicine

The new medical surgical building, which will add 40,000 square feet of floor space to Memphis' Medical Center was built at the cost of \$731,000. The building will provide enlarged quarters for the General Practice Clinic, the Department of Preventive Medicine, facilities for research on diseases of the heart and blood vessels and Clinics for thyroid gland diseases, diabetic conditions, chest surgery, and proctology.

A radioactive isotope clinic for study and treatment of selected diseases, orthopedic, dermatology and hematology clinics are also contained in the building.

★

The following postgraduate courses have been scheduled for this fall:

### 1955

- Oct. 5 - 7 Clinical Electrocardiography
- Oct. 20 - 21 Management of Cardiac Arrest

### 1956

- Feb. 28 - Mar. 2 Clinical Hematology
- Mar. 7 - 9 Diagnosis and Management of Pheripheral Vascular Disease
- Mar. 15 - 16 Pediatrics
- Mar. 28 - 30 Gastroenterology
- Apr. 25 - 27 Fractures and Dislocations
- May 9 - 11 Dermatology
- May 23 - 25 Cardiovascular Diseases
- July 25 - 27 Abdominal Surgery
- 'Five day' diversified program for General Practioners.

Division of Medicine - Sept. 26 - 30, 1955

Division of Obstetrics & Gynecology -  
Oct. 24 - 28, 1955

Division of Pediatrics - Nov. 7 - 11, 1955

Program outlines will be mailed in advance of each course. The courses are acknowledged for credit by the American Academy of General Practice.

For further information communicate with the Postgraduate Department, 4 South Dunlap, Memphis 3, Tennessee.

★

Drs. Albert Hand and Williams S. Cheek, of the Division of Pathology and Microbiology, and Dr. Hortense Luckes, of the Division of Physiology, were promoted to the rank of assistant professor.

Dr. Emile Van Handel of Rotterdam, Holland, has joined the staff of the Division of Physiology as research associate.

★

The following grants have been awarded: The Memphis Heart Association, research grants of \$6,550; to Dr. John Q. Adams, of the Department of Obstetrics and Gynecology, \$2,150 to study the disturbed physiology of the heart and blood vessels in patients with toxemia of pregnancy; to Dr. Nicholas R. Di Luzio, of the Department of Physiology, \$900 to study the role of plasma lipids in the vascular disease; to Drs. Wilford Gragg, and S. Gwin Robbins, of the Department of Surgery, \$750 for equipment to conduct cross circulation experiments; to Dr. C. Riley Houck, the Department of Physiology, a total of \$16,092 for studies in hypertension, from the American Heart Association \$5,250, the Memphis Heart Association \$2,750, and the National Heart Institute \$8,092; to Dr. Albert Hand, the Department of Pathology the \$9,500 Medical Faculty Award of the Lederle Division of American Cynamid Co.

## PERSONAL NEWS

**The Edwards-Eve Clinic**, to be limited to the practice of surgery, will be organized at 2001 Hayes Street in Nashville on October 1. Five surgeons now in practice in Nashville will form the new clinic. They are: **Dr. L. W. Edwards, Dr. Duncan Eve, Dr. A. Brant Lipscomb, Dr. William R. Cate, Jr., and Dr. J. L. Herrington, Jr.**

All five are graduates of the Vanderbilt University School of Medicine, Diplomates of the American Board of Surgery, and Fellows of the American College of Surgeons.

In addition to serving on the Vanderbilt Medical School teaching staff, they are attending surgeons at Vanderbilt Hospital, St. Thomas Hospital and Baptist Hospital.

**Dr. Robert W. Myers**, Chattanooga, announces the opening of his office in the Professional Building for the practice of internal medicine.

**Dr. Edwin E. Gray**, Franklin, has joined the Queen City Infirmary at Tullahoma, it was announced by Dr. James M. King, Tullahoma.

**Dr. R. S. Cowles, Jr.**, Greeneville, has returned from the service and opened his office for the practice of medicine and surgery.

**Dr. Kenneth G. Ross**, announces the opening of his office at the McSwain Clinic in Paris for the practice of general surgery.



**Dr. George A. Mitchell**, Chattanooga, has opened his office for the practice of gynecology and obstetrics.

**Dr. James T. Croley**, formerly of Oak Ridge, has joined the staff of the Doctors Memorial Clinic at Etowah.

**Dr. Matthew Walker**, Nashville, presided as President at the recent meeting of the National Medical Association.

**Dr. Tavner Rogers**, Decaturville, was recently honored there on "Dr. Rogers Day".

**Dr. W. B. Dye**, Springfield, has closed his office and retired, effective September 1st.

**Dr. George T. Lynch**, Claiborne County, was the subject of a recent news feature in the Knoxville Journal.

**Dr. Grace Moulder**, Shelbyville, has received an appointment to the Medical Advisory Committee of the Middle Tennessee Heart Association.

**Dr. Royce Holsey**, is now associated with the Franklin Clinic at Elizabethton.

**Dr. Julian Adams**, has opened his office for the practice of medicine in St. Elmo near Chattanooga.

**Dr. G. Turner Howard**, Knoxville, recently addressed the Knoxville Rotary Club.

**Dr. Charles R. Thomas**, Chattanooga, was the weekly speaker on television, sponsored by the Chattanooga Health Council and Medical Society.

**Dr. James N. Proffitt**, Maryville, is a candidate for city commissioner.

**Dr. William H. Fitts**, Nashville, has been appointed consultant in psychological research for the State Department of Mental Health.

**Dr. Don M. Taylor**, Nashville, has been elevated from Director of Mental Health to the position of chief of Community Services.

**Dr. Ray Methvin**, has opened his office for the practice of medicine in Waynesboro.

**Dr. T. R. Williams, Jr.** has opened his office for the practice of surgery and medicine in Savannah.

**Dr. Edward Robertson**, McMinnville, has opened his office for the practice of medicine in that city. He will be associated with **Drs. C. M. Clark, Jr.** and **B. C. Smoot**.

**Dr. Richard B. Willingham**, formerly of Winston-Salem, N. C. is now associated with **Dr. Jack Chesney** of Knoxville.

**Dr. D. J. Zimmermann**, Morristown, has been elected Chief of Staff of the new Morristown Hamblen Hospital which opened on August 18th.

**Dr. Ben J. Alper, M.D.** announced the opening of his office for the practice of internal medicine in the Medical Arts Building, Nashville.

The following physicians received their Fellowship certificates at the annual convocation of the American College of Chest Physicians on June 4.

**Drs. James R. Barr, Benjamin A. Cockrell, Frederick A. Knox, Jr., Michael M. Marolla**, of Memphis; and **Laurence A. Grossman** of Nashville.

## ANNOUNCEMENTS

### International Medical Assembly

The International Medical Assembly will convene in the Municipal Auditorium, Milwaukee, Wisconsin, November 14-17, 1955.


This concentrated scientific meeting provides 27 hours of quality medical education by some of the finest teachers in the U. S. and Canada. It is ideally suited to meet the needs of the busy general practitioner as well as the specialist desiring latest information in his field of practice.

### PRESIDENT'S LETTER

*(Continued from page 342)*

assisted in mass vaccinations as a part of the program of the National Foundation for Infantile Paralysis. It is not obvious to the writer why any such volunteer program should be necessary in the administration of this government vaccine. We have agreed, through a resolution passed by our House of Delegates, to make ourselves "fully available to administer such vaccine whenever provided, and, freely and without cost to those unable to pay, to the end that no child or adult will fail to receive such vaccination because of inability to pay for administration". To me, this promise means that those who are unable to pay for professional services shall receive vaccination from their public health departments but where these departments are unavailable or inadequate the physician has the obligation to administer the vaccine to such people in his own office without any charge.

Dear Lord, I hope that polio vaccine will not be necessary in the next world!



## PLACEMENT SERVICE

*The placement service of The Tennessee State Medical Association is designed to assist doctors and communities to get together. Further information and contacts on both physicians and communities are available from the Public Service Department, 322 Doctors Building, Nashville 3, Tennessee.*

### Locations Wanted

A 28 year old, married physician, Protestant, graduate University of Tennessee. At present Interning. Desires General Practice, Clinic, Assistant or Associate. Available now.

LW-162

A 25 year old, Protestant, married, graduate University of Tennessee. Desires General Practice with minor surgery in small town near Knoxville. Will consider others. Available January 1, 1956.

LW-167

A 33 year old, married physician, Hebrew, graduate University of Maryland, Diplomate American Board of Dermatology & Syphilology. Priority IV. Available immediately.

LW-168

A 33 year old, married physician, Protestant, graduate Northwestern University, priority IV, Desires Internal medicine, clinic, assistant or associate. Available any time.

LW-169

A 31 year old, married physician, Roman Catholic, graduate Georgetown University School of Medicine. Board eligible American Board of Orthopedics. Draft exempt. Desires clinic, assistant or associate. Available October 1.

LW-170

A 31 year old, married physician, Episcopalian, graduate University of Pennsylvania. Present practice limited to hospital patients. Desires to enter private practice. Specialty Internal Medicine. Available now.

LW-171

A 44 year old, married physician, Jewish, graduate University of Illinois, Board certificate held in Ophthalmology. Priority 4F. Desires associate or Solo. Available immediately.

LW-176

A 31 year old, married physician, Episcopal, graduate Georgia Medical College, specialty training in Ob-Gyn. Category 4. Desires clinic, assistant or associate. Available now.

LW-179

A 41 year old, married physician, Protestant, graduate University of Texas School of Medicine. Desires Otolaryngology and endoscopy in Clinic, assistant or associate. Available September 1.

LW-181

A 36 year old, married physician, Catholic, graduate University of Colorado. Board eligible in Pediatrics. Military status, not Eligible, previous service. Desires clinic, assistant or associate. Available now.

LW-182

A 35 year old, married physician, Protestant, graduate Yale University. Priority 4. 20 months residency in Internal medicine. Six years prac-

tice of Internal medicine. Available 60 days following notice.

LW-184

A 45 year old married physician, Protestant, graduate Columbia (P & S) New York City. Certified American Board of Urology. Desires clinic, assistant or associate.

LW-188

A 41 year old married physician, Protestant, graduate Jefferson Medical College of Philadelphia. Draft exempt. Desires general practice. Possibly Clinic—if so in Internal Medicine. Available 3 months after making decision.

LW-189

A married physician, Protestant, graduate University of Arkansas. Board eligible in psychiatry, but interested in returning to general practice. Draft exempt. Available now.

LW-190

A 30 year old, single physician, Protestant, graduate Columbia University. Board eligible in Internal Medicine, plus "subspecialty" in Radioisotopes as applied to Int. Med. Priority IV. Available now.

LW-192

A 30 year old married physician, Protestant, graduate Tulane, General Surgery training 3 years. Entering practice first time. Priority IV. Desires community 15,000 up. Clinic, assistant or associate. Available September 1, 1955.

LW-194

A 31 year old, married physician, Protestant, graduate Indiana University School of Medicine. One year Surgery, three year residency in Orthopedics. Board eligible in Orthopedics. Soon being discharged from army. Available now.

LW-196

A 31 year old married physician, Protestant, graduate Medical College of Virginia. Eligible for American Board of Internal Medicine. Priority IV. Prefers clinic, will consider assistant or associate. Desires East Tennessee. Available January 1, 1956.

LW-197

### Physician Wanted

Excellent Opportunity: Physician to take over general practice, with surgery if desired, in town of 4,500 population. Located northwest Tennessee. Leaving for residency.

PW-61

Town of 4-5 thousand population, located in East Tennessee, desires general practitioner. Community cooperation promised in securing house, and will re-do building to suit physician for office space.

PW-64

Wanted: An associate, in general practice in clinic with two other physicians. Middle Tennessee. Will guarantee a generous income from the start. Do not need to buy any equipment.

PW-65

Small town in West Tennessee desires general practitioner. No other physician in community. All efforts will be made to cooperate with physician in setting up his practice.

PW-67

Town in East Tennessee with trade area of 10,000-12,000. Desires general practitioner. One other physician in town. 16 bed hospital in town. Adequate office equipment is already available.

PW-68



# OFFICERS OF THE TENNESSEE STATE MEDICAL ASSOCIATION 1955

President—Charles C. Trabue, IV, M.D., 104 20th Ave., No., Nashville  
 President-Elect—Robert B. Wood, M.D., Medical Arts Bldg., Knoxville  
 Vice-President—James R. Lewis, M.D., Ripley  
 Vice-President—William N. Cook, M.D., Columbia  
 Vice-President—William N. Dawson, M.D., Maryville  
 Secretary—Editor—R. H. Kampmeier, M.D., Vanderbilt University Hospital, Nashville  
 Executive Secretary—Jack E. Ballentine, 319-325 Doctors Building, Nashville

## TRUSTEES

James C. Gardner, M.D., Chairman and Treasurer (1958), Doctors Building, Nashville  
 William J. Sheridan, Jr., M.D., (1956), Medical Arts Building, Chattanooga  
 Carroll C. Turner, M.D. (1957), 899 Madison Avenue, Memphis

Robert N. Buchanan, Jr., M.D., Doctors Building, Nashville  
 John R. Thompson, Jr., M.D. (1956), Jackson Clinic, Jackson

## SPEAKER OF THE HOUSE

Robert N. Buchanan, Jr., M.D., Nashville  
 Vice-Speaker—Joseph W. Johnson, Jr., M.D., Chattanooga

## COUNCILORS

First District—H. L. Monroe, M.D., Erwin (1956)  
 Second District—Joe L. Raulston, M.D., Knoxville (1957)  
 Third District—Cecil E. Newell, M.D., Chattanooga (1955)  
 Fourth District—John T. Moore, Jr., M.D., Algood (1957)  
 Fifth District—H. T. Kirby-Smith, M.D., Sewanee (1956)  
 Sixth District—D. C. Seward, M.D., Chairman, Nashville (1957)

## DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION

W. C. Chaney, M.D., Memphis (1957)  
 Charles C. Smeltzer, M.D., Knoxville (1956)  
 C. M. Hamilton, M.D., Nashville (1957)  
 Alternates—  
 Harold B. Boyd, M.D., Memphis (1957)  
 Harmon L. Monroe, M.D., Erwin (1956)  
 R. H. Kampmeier, M.D., Nashville (1957)

## PRESIDENTS AND SECRETARIES OF COUNTY MEDICAL SOCIETIES, 1955

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 Robert L. Brown, M.D., Jellico, President  
 Roscoe C. Pryse, M.D., LaFollette, Secretary  
**Bedford**  
 W. H. Avery, M.D., Shelbyville, President  
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 James T. Allen, M.D., Waverly, President  
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 Cecil E. Newell, M.D., 407 East 5th St., Chattanooga, President  
 Harry E. Jones, M.D., Interstate Bldg., Chattanooga, Secretary  
**Cooke**  
 W. B. Robertson, M.D., Newport, President  
 Glen C. Shults, M.D., Newport, Secretary  
**Consolidated Medical Assembly**  
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 S. M. Herron, Jackson, Secretary  
**Coffee**  
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 Coulter S. Young, M.D., Manchester, Secretary  
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 A. M. Taylor, M.D., Crossville, Secretary  
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 Mr. Jack Drury, 647 Doctors Bldg., Nashville, Executive Secretary  
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**Dyer-Lake-Crockett**  
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**McMinn**  
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**Memphis-Shelby County Medical Society**  
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 Edward D. Mitchell, M.D., Commerce Title Bldg., Memphis, Secretary  
 Mr. Robert C. Bird, 1363 Union Avenue, Memphis, Executive Secretary  
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# Journal of the Tennessee State Medical Association

OWNED AND PUBLISHED BY THE ASSOCIATION

Volume 48

OCTOBER, 1955

Number 10

*The frequency of automobile accidents commonly forces the general practitioner to assume major responsibility in emergency treatment which may mean ultimately life or death. In many accident cases it is the head injury which is the serious immediate problem. This paper offers an important discussion of the problem.*

## TREATMENT OF HEAD INJURIES\*

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### Mechanical Explanation of Craniocerebral Trauma

The skull is subject to various types of trauma caused by falling plaster, rocks, fists, blackjacks, falls, etc., but automobile accidents by far cause the greatest percentage of head injuries. In addition, wounds caused by stabbing or gunshot frequently penetrate the brain, but these are strictly neurosurgical problems and have been thoroughly discussed in the literature in the postwar decade. No attempt will be made to discuss them here. The treatment of those injuries which are most prevalent in civilian life will be the main purpose of this paper.

There is considerable variation in individual skulls with respect to such factors as thickness, elasticity, and bone composition, so that it is difficult to postulate hard and fast rules as to what will happen when any given skull is subjected to trauma. There are some generalizations, however, which govern the reaction of the skull and the brain to injury. The skull is roughly spheroidal in shape and the vault is elastic, so that when struck the shape is definitely altered and the intracranial volume decreased. This partially explains the direct and contrecoup brain injuries that occur, but the skull will also rotate on the atlas in the direction of the trauma, and as the brain follows somewhat more slowly its momentum is arrested by crashing into the walls of the cranium. The frontal and temporal poles suffer more than the rest of the brain

and generally are contused against the roughened floors of the anterior cranial fossa and sharp edge of the middle fossa. The brain has been compared to the situation of a pea in a pod, and rattles around, figuratively speaking, within the cranium when the latter is struck.

Of importance is not only the strength of the blow but the acceleration. There is not likely to be the extreme disruption when the velocity is minimal and, correspondingly, the injury will not be so great. For example, a car settling on a mechanic rather slowly due to a faulty jack, or a slowly moving truck crushing a victim against the side of a building are likely to produce extensive skull and brain injuries, but it is surprising how many of the patients are admitted to the hospital conscious. There is much more extensive damage when acceleration complicates the picture.

The significance of brain movement within the skull, that is the pea in the pod simile, must be emphasized from another standpoint. The cerebral veins draining the brain surface must traverse the subdural space to enter the various sinuses either sagittal, transverse, sphenoid, etc., and as their walls are relatively thin, the shearing action of brain motion will easily rupture them. A thin layer of blood will then form over the convex hemisphere and the stage is set for the development of a subdural hematoma. Either by continued oozing from the torn vessel, or the sucking of cerebrospinal fluid from the subarachnoid space due to increased osmotic tension within the hematoma, a slowly developing mass occurs

\*Read before the Meeting of the Tennessee State Medical Association, April 12, 1955, Chattanooga, Tenn.

which eventually must be evacuated or death will ensue. Subdural hematomas may be produced also by tears in the sinuses or by direct laceration of vessels in the brain substance.

It is of interest and importance to note that any pre-existing condition which will lengthen the course of the cerebral veins through the subdural space, i.e. cerebral atrophy caused by chronic malnutrition or the sequelae of chronic alcoholism, pre-existing brain disease such as malaria or encephalitis, or previous brain injury, and including also any condition which will alter blood coagulability or affect vessel fragility, will predispose toward the formation of intracranial hematoma. This partially explains the large number of hematomas in chronic alcoholics, plus the additional fact that this group is more subject to trauma than the normal population.

It is evident from the opening remarks that severe injury to the brain can occur without evidence of fracture of the skull and that conversely the skull can be fractured without serious brain trauma. In other words, the presence or absence of a linear skull fracture by no means indicates the severity of the brain injury and that it can be disregarded. If the fracture is depressed, however, or the line crosses the branches of the middle meningeal artery or a venous sinus, then it assumes importance not from itself but rather what has been done or might be done to underlying structures.

In the light of the brief discussion above and excluding the intracranial hematoma for the moment, the brain, as a result of trauma, suffers a concussion, contusion, or laceration. A concussion is defined as a momentary loss of consciousness usually followed by complete recovery as the changes in the brain cells are physiologic rather than pathologic. Contusion applies to injury of a more serious nature with irreversible damage to neurons, and laceration means an actual tearing of the brain substance. The latter two usually are accompanied by bleeding into the subarachnoid and subpial spaces.

#### Initial Treatment of Head Injuries

Given a patient with a head injury, what

are the steps initiated in the emergency treatment?

(1) Of utmost importance is the determination of a state of consciousness. A deeply comatose patient is of much more immediate concern than one who is awake or only stuporous. There are many recommendations for labeling the state of consciousness; the one that is the author's preference is simple. The patients are either awake and oriented, comatose, or confused or stuporous.

(2) Inspection of the cranium for contusions, ecchymoses, or lacerations, and careful examination of the latter by direct vision or an exploring gloved finger for bony defects are imperative. Any obviously depressed areas must also be examined, and it must be determined whether there is a compound fracture with or without oozing brain substance. It has been the practice to inspect the ears and the nose for spinal fluid leaks.

(3) The state of blood pressure, pulse, and the ease of respiration must be determined early. There is an axiom on the neurosurgical service here that if there is any question of necessity for a tracheotomy it must be done immediately. There has been no single procedure in the last 15 years in the treatment of severe head injuries that has contributed more than this simple, easily performed procedure which is indeed life saving. A small transverse incision an inch above the sternal arch is preferable, usually accomplished with local anesthesia but frequently none at all, and the insertion of as large a tracheotomy tube as possible, a number 7 or 8 for adults and a smaller one for children and infants. Following this procedure, intratracheal suction can be instituted at once and oxygen given directly through the tracheal tube. It is extremely gratifying to see a patient relax, turn pink, and breathe deeply and easily when just a few minutes before there had been cyanosis, restlessness, and labored respiration.

With respect to the pulse and blood pressure, it is generally a complicated head injury that exhibits the usual signs of continued shock, although many patients having uncomplicated cranial injuries arrive in the emergency room with a rapid, thready

pulse and hypotension. If these continue a careful search should be made for injuries to the chest, abdomen, or extremities. Shock should be combatted in the usual manner with intravenous blood or other fluids, oxygen, etc.

(4) The next step is to examine the patient from a neurologic standpoint very carefully noting pupillary reflexes, degree of movement of the extremities, and the presence of pathologic reflexes, and these should be recorded at the time the examination is done. This serves as a good guide for future examinations.

(5) The choice of drugs to control restlessness and overactivity should be considered next. Morphine, of course, should never be given to a patient with a head injury from the standpoint of respiratory depression or elimination of the valuable pupillary signs. Demoral and codeine are contraindicated to a lesser extent. Paraldehyde is a safe drug which can be given intramuscularly, by mouth, or rectally, and Sodium Luminal and chloral hydrate may be used in appropriate dosage also. In severely contused or lacerated scalps, or in patients whose faces have been badly injured, a polyvalent serum is routinely given which contains gas and tetanus antisera. These patients are also started on some form of antibiotic, particularly if deeply comatose, because respiratory movement will then be impaired and pulmonary infection can readily occur.

(6) If the patient is in fairly good condition at the time, attention is next turned to the care of the lacerations and contusions, the application of casts to fractured extremities, and determination of the need for abdominal or chest operations. We perform an initial lumbar puncture for the measurement of spinal fluid pressure and the presence or absence of blood in the spinal fluid. Following this, X-ray films of the skull or other indicated areas are obtained.

(7) In the treatment of a head injury which is complicated by serious injuries elsewhere, first consideration should be given to that injury which threatens the patient's life. If a patient enters the hospital with a very serious head injury and a peripheral fracture, no definitive therapy on the fractured extremity is indicated until

the head injury has responded to therapy. For example, the treatment of a fractured femur in a patient with a severe head injury is frequently postponed for four or five days until the head condition allows definitive care. These patients can be placed in temporary splints or casts which allow turning until the critical period is over. It is better to have a live patient with malalignment of a fractured extremity than a dead patient with a perfect anatomic reduction. On the other hand, open chest wounds or rupture of abdominal viscera or organs may require emergency intervention even in the face of a very serious brain injury.

#### The Follow-Up Treatment of Closed Head Injuries

The vast majority of head injuries do not require operation. For the more serious contusions and lacerations with prolonged coma or stupor, a careful check on the blood pressure, pulse, respiration, and temperature is indicated every 15 to 30 minutes at first, gradually lengthening the interval to four hours over a period of days until the patient's condition improves. The fluid intake of any patient having a serious head injury varies. Some patients require up to five liters a day and others require one and a half to two. Accordingly, a fluid balance regimen is instituted depending on individual needs. The patients are started on 1,500 to 2,000 cc. per 24 hours, and this is increased if there is a rapid pulse or depressed blood pressure with decreased pulse pressure, respiratory changes, hot dry skin with poor tone, anoxemia in the absence of renal disease or low urinary output with high specific gravity.

For the first few days the fluids are given intravenously or subcutaneously, and thereafter a Levin tube is passed and kept in until the patient recovers sufficiently to eat, or until an untoward reaction to the tube forces its removal. Careful attention is paid to daily bowel elimination. Cathartics by mouth or Levin tube are given if necessary, and very frequently hypertonic glycerin magnesium sulfate enemas are employed. The comatose patient is usually kept off his back and turned completely side to side every two hours to prevent accumulation of pulmonary secretions and atelectasis. A



careful check on the neurologic status for localizing signs is made daily, and there is no hesitation to explore these patients if the indication arises.

At times hyperthermia becomes a problem but this is combatted by removing the bed clothes, alcohol sponges, application of ice bags to the skin, and if more drastic methods are required, placing the patient in ice water baths or packing in ice. To prevent soiling from urinary incontinence, an indwelling catheter may be placed in the bladder and led to a bottle by the side of the bed. This should be removed as soon as the patient's condition permits.

With these conservative measures the vast majority of patients having serious craniocerebral injuries will recover, some more seriously injured will die, and a certain percentage will require immediate or delayed surgery.

#### Head Injuries Requiring Surgery

*A. Acute Intracranial Hematoma.* The acute intracranial hematoma constitutes a real neurosurgical emergency although there is a variable period of observation or grace in almost every case before operation is decided upon. The most common intracranial hematoma is the epidural, but acute subdural and intracerebral hematomas do occur and present similar clinical pictures. The classical symptomatology of the acute intracranial hematoma, i.e. the lucid interval, is definitely in the minority as far as my experience is concerned. The vast majority never regain consciousness because of associated brain injury accompanied by subarachnoid bleeding. Localizing signs such as a unilateral dilated fixed pupil with weakness or paresis of the opposite side, increased contralateral deep reflexes, and a Babinski constitute sufficient evidence for craniotomy, particularly when accompanied by a slow pulse, increased blood pressure, and a fracture line across the middle meningeal vessels. The bleeding point must be secured, or the foramen spinosum be plugged, or the site of the hemorrhage otherwise controlled, and the clot evacuated whether its site be epidural, subdural, or intracerebral.

*B. Compound or Depressed Skull Fractures.* Cases of compound or depressed

skull fractures with or without laceration of the dura and brain, require definitive surgery immediately when the patient's condition permits. All that is necessary for a depressed or compound fracture which has not penetrated the dura is elevation of the bone fragments. These bone fragments are frequently replaced after careful cleansing so as to obviate the necessity for a tantalum plate at a later date.

The more serious depressions which penetrate the dura and brain require debridement of the wound, removal of indriven bone fragments, and elevation of depressed areas. The dural defect is completely outlined and then the soft, soupy brain is carefully removed with the sucker, and all bleeding points are controlled. With the cavity completely cleansed, it is usually filled with fifteen to twenty thousand units of penicillin and a careful approximation of the dura accomplished. If the dura has been too extensively torn for primary anastomosis, it is repaired either by a dural flap or temporal muscle or fascia lata graft; it is imperative that the dura be closed tightly. The bone fragments are replaced if at all possible and, if not, a tantalum plate is inserted at a later date.

*C. Chronic Subdural Hematoma.* The formation of a chronic subdural hematoma has been discussed above. The classical picture of a subdural hematoma is one in which the patient may apparently recover from the initial head injury whether minor or severe and might even return home from the hospital or clinic. Several weeks after the accident the patient becomes progressively drowsy, may complain of headache, and may notice weakness on one side of the body or the other. If unchecked, this picture will gradually develop until some morning the patient is found completely comatose in bed with a dilated, fixed pupil on one side and a contralateral paralysis. In all chronic subdural hematomas a bilateral trephine is performed, and the fluid portion of the clot evacuated.

There is some difference of opinion as to whether or not the inner and outer membranes of a subdural hematoma should be removed in an adult. It is the feeling on our service that the entire sack should be excised. There is no argument about re-

moval of the subdural membranes in children. Here it is imperative that the outer and inner layers of the sac should be completely excised, turning a large flap if necessary, because of the constricting effect such a membrane will have on brain development. If the sac is not removed in a child, convulsions, mental retardation, or other sequelae usually follow.

At times subdural hematomas recur following a primary removal, especially if there has been some underlying nutritional problem, and it has been my experience to have to reopen some of these patients. There is no hesitation to re-explore a wound if the patient's condition does not seem to be progressing as well as it should.

*D. Subdural Hygroma.* The treatment of a subdural hygroma, a collection of cerebro-

spinal fluid trapped in the subdural space, is the same as that for a chronic subdural hematoma, i.e. trephination with removal of the fluid accumulation. It is usually thought that a subdural hygroma is caused by a tear in the arachnoid which allows escape of fluid into the subdural space and then as the arachnoidal tear heals the fluid remains and acts as a space occupying mass. There is usually no membrane formation with a subdural hygroma and the evacuation of the fluid is a relatively simple procedure.

### Summary

The mechanics of craniocerebral trauma are briefly considered, and the methods of treating these injuries, both operative and nonoperative, are reviewed.

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#### **Circulatory Effects of Mitral Commissurotomy with Particular Reference to Selection of Patients for Surgery. By M. Irene Ferrer, M.D., Rejane M. Harvey, M.D., Robert H. White, M.D., Aaron Himmelstein, M.D., Adrian Lambert, M.D., Marvin Kuschner, M.D., Andre Cournand, M.D., and Dickinson W. Richards, M.D. *Circulation* 12: 7, 1955**

This paper presents a study of 60 patients referred for mitral commissurotomy to the Cardiopulmonary Laboratory of the Columbia University Division of Bellevue Hospital, New York City. The authors are among the most experienced in the field of cardiopulmonary physiology and the article deserves to be read carefully by anyone having the responsibility for the care of this type of patient. Forty-five of the patients were studied by cardiac catheterization and of these, 27 underwent surgery. Of particular interest are the pre- and post-operative data in the 17 cases studied one to 15 months after commissurotomy. The important problem of selection of patients for operation is carefully discussed and the pitfalls

which may await the physician who omits cardiac catheterization as part of the preoperative study are outlined. In the experience of the authors, the combination of a murmur of mitral insufficiency with X-ray evidence of mitral valve calcification has been associated with a poor postoperative result. Attention is drawn to the difficulty of attempting to distinguish at times pulmonary hypertension due to a stenotic mitral valve from that resulting from left ventricular failure. Finally, the point is made that the degree of pulmonary hypertension may at times be inaccurately estimated by clinical examination alone, just as the patient's statement as regards postoperative improvement may be at variance with the level of the pulmonary artery pressure. Since the operation is performed to relieve pulmonary hypertension, it is considered desirable to have pre- and post-operative cardiac catheterization studies. Only in this way can one be sure in a given case of the effect of commissurotomy upon pulmonary hypertension and cardiac output. (Abstracted for the Middle Tennessee Heart Association by Richard D. France, M.D., Nashville, Tenn.)

*The author discusses the basic physiologic disturbance, diagnosis and management of abnormal uterine bleeding.*

## ABNORMAL UTERINE BLEEDING

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### Introduction

Using various media, radio, television, newspapers, magazines, and pamphlets, the American Cancer Society has helped tremendously in bringing the cancer problem before the public. Women, especially, are becoming increasingly aware of cancers that might be lurking in some portion of their reproductive organs. They are learning to recognize signs and symptoms of early carcinoma which may be amenable to early therapy and eradication. Those above the age of 35, particularly, are being educated to report every six months for a general physical and pelvic examination. The most common symptom in women presenting themselves for examination is abnormal uterine bleeding. This has not only increased the patient load for the physician but has also emphasized the need for coping aggressively and competently with this type of bleeding. However, the practitioner frequently is unable to assay this situation adequately because he does not possess a workable scheme from which a suitable diagnosis and treatment can evolve. This is especially true in any discussion of functional uterine bleeding, for some of its components involve philosophical considerations, many of which are far from being generally confirmed and accepted. One has only to scan the writings of various workers in this field to appreciate the confusing terminology and conclusions.

The outline that follows is proposed not as an inexhaustible study of this complex problem, but more as a personal interpretation. I have profited enormously from this simple outline and offer it for whatever good it might do in helping the practitioner organize his thinking. To be sure, disagreement will arise about it, but it is felt that it is better to set sail with some logical chart than with a haphazard one, or none at all.

The outline and discussion that follow

deal with uterine disturbances per se. Lesions of the vulva, vagina, and even cervix are purposely omitted. This should neither diminish the importance of these areas nor the need for careful examination of both the external genital organs and cervix. The following outline is offered:

- I. Gestational
  - A. Intra-uterine
  - B. Extra-uterine
- II. Organic
  - A. Endometrial carcinoma or sarcoma
  - B. Endometrial polyp
  - C. Submucous fibroid
- III. Functional uterine bleeding (ovarian failure)
  - A. Primary ovarian failure
    1. Ovarian tumors
      - a. Benign
      - b. Malignant
    2. Pelvic disease
      - a. Pelvic inflammatory disease
      - b. Endometriosis
      - c. Tuberculosis
  - B. Secondary ovarian failure
    1. Constitutional disorders
      - a. Tuberculosis
      - b. Infectious diseases
      - c. Malnutrition
      - d. Obesity
      - e. Psychic
    2. Hemorrhagic diathesis
    3. Glandular
      - a. Pituitary
      - b. Adrenal
      - c. Thyroid
  - C. Treatment
    1. Diagnostic (curettage)
    2. Hemostatic
      - a. Medical (hormonal)
      - b. Surgical (curettage)
    3. Treatment of constitutional derangements
    4. Control with hormones
    5. Definitive
      - a. Irradiation
      - b. Hysterectomy

To a large extent the outline is self-explanatory. The discussion that follows will largely be an amplification of the outlined material (*supra vide*).

### Discussion

In a logical approach to the problem of

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abnormal uterine bleeding three large categories have been suggested, namely, gestational, organic and functional. The latter is interpreted as ovarian failure because the ovary in most cases has failed to ovulate. It is with this last group that we shall especially be concerned. The first two groups will be dismissed rather hurriedly since their detailed emphasis is not intended to be within the scope of this paper.

A uterus may "bleed" abnormally if a pregnancy, either intra- or extra-uterine is present. Obviously this is designed to include abortions, ectopic gestations, hydatidiform moles, choriocarcinomas, retained products of conception and other allied uterine gestational complications. Then, too, a uterus may "bleed" abnormally if organic intra-uterine lesions exist, namely, endometrial carcinomas or sarcomas, polyps and submucous fibroids. A detailed history, and appropriate laboratory and diagnostic aids will invariably suffice to make the diagnosis. Once the diagnosis is made, treatment will usually fall within the sphere of conventional and, to a large extent, non-controversial methods. However, most of the complex and exasperating problems arise in the third category, for which the term functional uterine bleeding, or better yet, ovarian failure, has been employed.

Ovarian failure may exhibit itself in a variety of menstrual dysfunctions including amenorrhea, menorrhagia, polymenorrhea, metrorrhagia, oligomenorrhea, and hypomenorrhea. To be sure, occasionally ovulation does take place in the presence of polymenorrhea (frequent periods), oligomenorrhea (long cycles) and hypomenorrhea (scanty or short menstrual flow). This is usually the exception, however, and not the rule. The occurrences of anovulatory functional bleeding is usually at the extremes of life, puberty and menopause. During these two epochs, the bleeding is either menorrhagic (excessive menstrual flow), metrorrhagic (uterine bleeding independent of menstrual period, or menometrorrhagic).

For the convenience of organizing the discussion, ovarian failure may be designated as primary and secondary. Primary includes any condition or conditions acting locally and directly upon the ovary, causing ovarian dysfunction,—hence abnormal uter-

ine bleeding. Some of these situations include benign and malignant ovarian neoplasms, pelvic inflammatory disease, "pelvic congestion," pelvic endometriosis, and pelvic tuberculosis. Exactly how these conditions alter ovarian function is not clearly understood.

In consideration of secondary ovarian failure there are a variety of disorders and diseases, mainly systemic, that may be incriminated. Systemic tuberculosis, infectious diseases, hemorrhagic diathesis, psychic factors, glandular dysfunction, (pituitary, adrenal, thyroid), chronic nephritis, diabetes mellitus, and a host of others may secondarily affect the ovaries, inhibiting ovulation, thus causing disordered uterine bleeding.

The exact cause of functional uterine bleeding remains obscure. The abnormal fluctuations of estrogen levels are usually the immediate, but not the underlying, cause. Apparently the levels of both estrogen and progesterone in the blood control the release of pituitary gonadotrophins, thereby effecting a reciprocal hypophyseal-ovarian relationship. Obviously other glands are involved. The thyroid is in some fashion functionally linked with the gonads, but the exact mechanism involved is not clearly understood. It is thought that the influence of the thyroid gland on the ovary may be mediated through the pituitary. At any rate, the sex endocrine cycle is very labile and may react to many factors in the soma.

### Treatment

Before any type of treatment is begun, diagnostic or definitive, the patient should receive the benefit of a thorough physical examination and the necessary diagnostic laboratory aids. It goes without saying that once either a systemic or local disorder is uncovered treatment should be directed against it. This treatment may be either medical, surgical, or both. It is surprising how often some cases are restored to a normal state simply by correcting the existing overweight or underweight. Other constitutional disorders such as infectious diseases, tuberculosis, glandular disorders, faulty clotting mechanism, chronic nephritis, diabetes mellitus and many others may upset

the normal menstrual pattern. These should be sought for and corrected if possible. Patients should be advised that abnormal menses do not always mean a pathologic condition of the uterus, *per se*, exists. It is incredible how often this is either overlooked or de-emphasized. Successfully probing and penetrating the often maladjusted psyche of the patient pays off rewarding dividends. It is common knowledge that women of the war-torn areas of the world have exhibited every conceivable abnormality of their menstrual cycles from amenorrhea of several months duration, to profuse hemorrhage. It must be clearly understood that the ovary is not an independent gland. Both somatic and psychic disturbances alter its function.

In actual practice there are four chief reasons why the physician needs to be concerned about altered uterine bleeding: (1) to rule in or out intra-uterine organic lesions; (2) to aid cases of sterility and relative infertility; (3) to control hemorrhage; and (4) to allay the patients' fears and apprehensions.

Since carcinoma of the uterus is always a distinct possibility, a dilatation and curettage becomes in most cases mandatory. An endometrial biopsy alone is not enough, for a carcinoma can easily be missed. Quite obviously there are exceptions to this, such as during puberty and early adolescence. Endometrial carcinoma is chiefly a disease of the menopause and postmenopausal eras. However, the author has seen two cases, occurring within a week, of endometrial carcinoma in patients, ages 29 and 30 respectively. These were genuine carcinomas, attested to by several consulting pathologists, and not just examples of atypical endometrial hyperplasia.

Still another important function of a curettage is to identify the histologic type of endometrium in order that intelligent use of the hormones may be accomplished. This is especially true in cases of sterility and relative infertility. The histologic appearance of the curetted material reveals at times startling endometrial types. Since altered uterine bleeding may be associated with any type of endometrium it is not unusual for the curetted specimen to reveal atrophic, proliferative, secretory, mixed pro-

liferative and secretory or hyperplastic changes. Hyperplastic endometrium may very well show little or no bleeding while atrophic endometrium may be accompanied with profuse bleeding.

Often a surgical curettage is the only means by which profuse uterine hemorrhage can be stopped. Its hemostatic effect is prompt, and occasionally normal menses will re-establish themselves.

Once the curettage has been performed, the physician has the choice of either starting the patient on an hormonal regimen within a reasonable period of time, or observing the patient. Surprisingly, at times the normal menstrual pattern will re-establish itself without the need for hormones. The fact that it may correct the condition suggests that the endometrium is refractory to the stimulation of progesterone.

Diethylstilbestrol is selected as the steroid hormone of choice because of the good results obtained and because of its cheap price. Its side effect of nausea can be minimized, if not eliminated, by prescribing the medication after meals and at bedtime. For those physicians whose patients' finances permit, a number of preparations are available that will soothe the gastric mucosa. The point to remember about estrogenic preparations is that we are dealing in equivalent amounts. It does not matter one iota which estrogenic hormone is prescribed just so an equivalent and an adequate amount is given. Tables are available giving this information.

To check profuse bleeding before considering surgical curettage, heavy doses of diethylstilbestrol will often suffice. In some cases, up to 50 mg. or more per day orally are required before the bleeding is controlled. Currently, intravenous preparations are available that will perform the same function with smaller doses and in a shorter time. These hormones check the flow not only by acting directly upon the endometrium, "building it up," but also by inhibiting the pituitary. After the bleeding has subsided considerably or stopped, the hormones are withdrawn and sloughing of the endometrium occurs within two to seven days. On the second or third day of withdrawal bleeding 1.0 mg. daily of diethylstilbestrol or its equivalent amount in any



other comparable preparation is started and given for one week; during the second week, 2.0 mg. daily, and during the third week 3.0 mg. daily. At the end of this period the diethylstilbesterol is discontinued completely. Withdrawal bleeding will ensue in several days. If this stepped-up dosage is not given, "break through" bleeding may occur because prolonged similar daily doses do not suffice to maintain the integrity of the endometrium. This therapy can be repeated for three or four months. Supplementation of this regime with progesterone is usually unnecessary even though proponents of the so-called physiologic cyclic therapy may call it nonphysiologic. Progesterone is expensive and its administration is usually superfluous. The technic described permits restoration of normal cycles by placing the ovaries at rest and allowing the pituitary to be subjected to a normal conditioning mechanism whereby there will be a decrease of the follicle stimulating hormone (FSH), and a release of the lutein stimulating hormone (LSH) at the opportune time.

Testosterone, even though considered by some to be "nonphysiologic," has been effective in some cases. It has been found to be more helpful than progesterone, chiefly because its anti-estrogenic effect inhibits follicle stimulation. It is most effective against prolonged bleeding, and may be employed in 10 mg. dosages three times weekly, but never more than 200 mg. per month because of the irreversible hirsutism that may result with greater amounts.

Equine and chorionic gonadotrophins have not been employed too often with any degree of satisfaction. The expense is great, too many injections are necessary, and results are poor. Antihormones develop rapidly and there is always the danger of protein sensitization and reaction.

Small doses of X-ray have not been used on either the pituitary or the ovary or both. It is much too difficult to predict what constitutes an adequate or safe dose, and what effect such irradiation will have on subsequent generations.

If a thyroid deficiency or excess is suspected, a B.M.R. and/or blood iodine levels should be done. However, thyroid gland substance can be given empirically at times.

It should be given in tolerance doses rather than in homeopathic amounts.

Finally, if all measures fail over a reasonable period of time in treatment of this intermediate group, that is, between early adolescence and menopause, more definitive therapy will have to be undertaken. Since this therapy is similar to that described for the menopausal group, the discussion will be given later.

When this type of altered bleeding appears in young girls, either during puberty or early adolescence, usually no therapy is required except for reassurance to the patient, family and relatives, for the condition will spontaneously rectify itself in the majority of instances. In this group, irregular bleeding is not surprising, for the ovaries are just starting to function and are trying to get adjusted to their environment, the intricate system of reciprocal relationships with the soma and the psyche. In others, a medical curettage as discussed above may become indispensable. Rarely is the bleeding intractable enough to warrant more radical therapies such as surgical curettage and continued hormonal management. Blood transfusions and hematinics should be administered when necessary.

In women past 45 years of age the methods of treatment will differ. Near the menopause the ovaries become more and more refractive to pituitary stimulation. The ovaries have done their job and are now going into retirement, hence the disordered bleeding.

When this bleeding is troublesome or suspicious, a surgical curettage alone may suffice but repeated ones involve too much expense and anxiety. Hormones should seldom be given in the last decade of reproductive life. The recurrent bleeding that may follow their administration often poses great concern as to the possibility of an adenocarcinoma developing coincidentally. If vasomotor symptoms are troublesome, estrogens may be given in very small doses and over very short periods. If the menstrual excesses should recur following a curettage, it is probably advisable to resort to a more definitive mode of therapy.

There are two commonly accepted procedures, irradiation and hysterectomy, to abolish ovarian function completely. The



latter, which the author prefers, should still be considered a major procedure, but its popularity is gaining because of better trained physicians, availability of antimicrobial therapy and unlimited quantities of whole blood. If the patient can withstand surgery, the vaginal route is to be preferred. During the course of the operation the often concomitant symptomatic anterior and posterior relaxations can be corrected. The abdominal approach is recommended when a laparotomy is advisable, for example in associated adnexal disease, recurrent appendicitis or abdominal herniation of some kind. With most physicians irradiation still holds the edge over hysterectomy. For one thing, it is not as formidable a procedure and can be used in

patients unable to withstand major surgery. Recently some concern has been expressed with this method, since various reports show a disproportionately higher incident of adenocarcinoma of the endometrium in patients previously treated with curettage and irradiation. The reports should be viewed with some skepticism, for it has yet to be proved that irradiation is carcinogenic.

#### Summary

A logical outline of abnormal uterine bleeding has been presented along with a simplified approach to the diagnosis and treatment of this type of bleeding. Particular emphasis was placed on the highly controversial and all important functional uterine bleeding, logically designated as ovarian failure.

*This study over a two-year period resulted in data significant in the selection of antibiotics for the treatment of urinary tract infections.*

## SUSCEPTIBILITY OF GRAM-NEGATIVE BACTERIA FROM URINE TO ANTIMICROBIAL DRUGS\*

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A number of species of bacteria are characterized by a homogenous high susceptibility to certain antimicrobial drugs, a property which simplifies the selection of treatment for infections with them, since determination of their etiologic role directly indicates the drug or drugs which may be used. Some other species, or closely related groups of bacteria, do not exhibit this uniform susceptibility to antimicrobial drugs, consequently selection of therapy for infections caused by them is more difficult. Among the organisms most closely representative of the latter group are the gram-negative bacilli, *E. coli*, *A. aerogenes*, *Proteus* sp., and *Ps. aeruginosa*. These organisms are the major cause of urinary tract infections and, as such, constitute the largest source of requests for drug susceptibility tests in hospitals.

In recent years a relatively standard procedure of testing the susceptibility of bacteria to antimicrobial drugs has evolved in clinical laboratories, based on the use of filter paper disks impregnated with antimicrobial drugs. In developing the procedure the principle has been followed that the *in vitro* results should parallel the *in vivo* effects of the drug. Thus infections caused by organisms which are highly susceptible *in vitro* should be highly responsive to usual doses of these agents *in vivo*; and similarly, diminishing *in vitro* activity should be associated with reduced clinical effectiveness. It is our observation that the correlation of *in vitro* and *in vivo* effects is best in the range of high susceptibility and least among partially resistant and resistant categories.

At Vanderbilt University Hospital a large number of the paper disk type of drug susceptibility tests were performed in 1953 and 1954, on strains of the four groups of gram-

negative bacteria referred to above, all of which were obtained from cultures of urine. In the present report the results are summarized for the purpose of relating current patterns of antimicrobial susceptibility to the problem of selection of agents for treatment of urinary infection.

### Procedure for Drug Susceptibility Tests

In performing the assay 0.5 ml. of a four to six hour subculture in broth of the organism to be tested was mixed and poured with 10 ml. of melted meat infusion agar into a Petri dish. After cooling, paper disks containing the concentrations of drugs described in table 1‡ were placed on the surface of the agar. High and low concentrations of each drug were paired on the plate and incubated overnight.

Table 1  
CONCENTRATION OF ANTIMICROBIAL DRUG IN PAPER DISKS\* USED IN SUSCEPTIBILITY TESTS AT VANDERBILT HOSPITAL

| Antimicrobial Drug | High Concentration | Low Concentration |
|--------------------|--------------------|-------------------|
| Chloramphenicol    | 60 mcg.            | 10 mcg.           |
| Oxytetracycline    | 60 mcg.            | 10 mcg.           |
| Chlortetracycline  | 60 mcg.            | 10 mcg.           |
| Streptomycin       | 100 mcg.           | 1 mcg.            |
| Penicillin         | 10.0 units         | 0.5 units         |
| Polymyxin B        | 30 mcg.            | 5 mcg.            |

The tests were interpreted as follows. If a large zone of inhibition appeared around the low concentration disk ( $\pm 15$  mm.) the organism was considered "susceptible." If a smaller but definite zone (up to 11 mm.) appeared the result was classified as "moderately susceptible." In tests with these

‡The paper disks used were from commercial sources, usually the Difco Company. An intermediate series of drug concentrations were available but for reasons of economy these disks were not used.

\*Most material used in this study obtained from Difco Laboratories, Detroit 1, Mich.

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readings high concentration disks invariably showed large zones of inhibition. When none or very slight inhibition was observed around the low concentration disk, the result was read as "moderately resistant." If a small zone or no zone was present around the high concentration disk the organism was described as "resistant."

Experience with the test demonstrated the usual breadth of variation of susceptibility of bacteria by this test to the various drugs, and knowledge of the individual characteristics of growth of certain species of bacteria in the presence of certain drugs contributed greatly to assigning the values described. For example, it was observed that maximal zones with polymyxin B were

never as wide as with other drugs, but the margins were much more sharply delineated. *Proteus* bacilli showed sharply delineated zones with chloramphenicol, while with *Ps. aeruginosa* strains the zone margins were often diffuse.

### Results

There were approximately 150 strains of *A. aerogenes* tested in 1953 and about 240 tested in 1954. A somewhat smaller number of *E. coli* were tested in each of the two years. There were 100 or less of strains of *Ps. aeruginosa* and proteus bacilli examined in these periods. The susceptibilities of the four groups of bacteria to six antibiotics is shown in table 2.

Table 2

ANTIMICROBIAL SUSCEPTIBILITY OF GRAM-NEGATIVE BACILLI IN 1953 AND 1954 AT VANDERBILT HOSPITAL

#### A. AEROGENES

1953

| Drugs                               | No. of Tests | Per Cent Sus'p. | Per Cent Mod. Sus'p. | Per Cent Mod. Resist. | Per Cent Resist. |
|-------------------------------------|--------------|-----------------|----------------------|-----------------------|------------------|
| Chloramphenicol                     | 159          | 73              | 14                   | 7                     | 4                |
| Chlortetracycline                   | 155          | 12              | 34                   | 33                    | 22               |
| Oxytetracycline                     | 157          | 12              | 37                   | 15                    | 36               |
| Average of Tetracyclines percentage |              | 12              | 35                   | 24                    | 29               |
| Polymyxin B                         | 159          | 8               | 53                   | 33                    | 6                |
| Streptomycin                        | 158          | 11              | 16                   | 13                    | 59               |
| Penicillin                          | 159          | 0               | 0                    | 1                     | 99               |

1954

|                                     |     |    |    |    |    |
|-------------------------------------|-----|----|----|----|----|
| Chloramphenicol                     | 242 | 67 | 19 | 5  | 8  |
| Chlortetracycline                   | 236 | 15 | 24 | 25 | 35 |
| Oxytetracycline                     | 235 | 15 | 22 | 11 | 52 |
| Average of Tetracyclines percentage |     | 15 | 23 | 18 | 44 |
| Polymyxin B                         | 238 | 18 | 56 | 20 | 6  |
| Streptomycin                        | 248 | 15 | 15 | 6  | 64 |
| Penicillin                          | 143 | 0  | 1  | 1  | 99 |

#### E. COLI

1953

| Drugs                               | No. of Tests | Per Cent Sus'p. | Per Cent Mod. Sus'p. | Per Cent Mod. Resist. | Per Cent Resist. |
|-------------------------------------|--------------|-----------------|----------------------|-----------------------|------------------|
| Chloramphenicol                     | 120          | 71              | 20                   | 6                     | 3                |
| Chlortetracycline                   | 119          | 13              | 34                   | 36                    | 18               |
| Oxytetracycline                     | 119          | 19              | 38                   | 16                    | 27               |
| Average of Tetracyclines percentage |              | 16              | 36                   | 26                    | 22               |
| Polymyxin B                         | 120          | 7               | 61                   | 22                    | 11               |
| Streptomycin                        | 117          | 11              | 35                   | 17                    | 37               |
| Penicillin                          | 120          | 0               | 1                    | 4                     | 95               |

1954

|                                     |     |    |    |    |    |
|-------------------------------------|-----|----|----|----|----|
| Chloramphenicol                     | 220 | 77 | 18 | 3  | 2  |
| Chlortetracycline                   | 219 | 20 | 30 | 26 | 24 |
| Oxytetracycline                     | 217 | 15 | 31 | 15 | 39 |
| Average of Tetracyclines percentage |     | 18 | 31 | 15 | 39 |
| Polymyxin B                         | 214 | 18 | 63 | 17 | 2  |
| Streptomycin                        | 227 | 14 | 33 | 11 | 42 |
| Penicillin                          | 148 | 0  | 0  | 1  | 99 |



PSEUDOMONAS AERUGINOSA  
1953

| Drugs                               | No. of Tests | Per Cent Sus'p. | Per Cent Mod. Sus'p. | Per Cent Mod. Resist. | Per Cent Resist. |
|-------------------------------------|--------------|-----------------|----------------------|-----------------------|------------------|
| Chloramphenicol                     | 31           | 10              | 10                   | 48                    | 32               |
| Chlortetracycline                   | 31           | 3               | 0                    | 42                    | 55               |
| Oxytetracycline                     | 31           | 3               | 16                   | 35                    | 45               |
| Average of Tetracyclines percentage |              | 3               | 8                    | 39                    | 50               |
| Polymyxin B                         | 30           | 67              | 27                   | 7                     | 0                |
| Streptomycin                        | 31           | 6               | 0                    | 6                     | 87               |
| Penicillin                          | 31           | 0               | 0                    | 3                     | 97               |

1954

|                                     |    |    |    |    |     |
|-------------------------------------|----|----|----|----|-----|
| Chloramphenicol                     | 67 | 16 | 28 | 31 | 24  |
| Chlortetracycline                   | 60 | 3  | 9  | 24 | 64  |
| Oxytetracycline                     | 69 | 6  | 10 | 30 | 54  |
| Average of Tetracyclines percentage |    | 4  | 9  | 28 | 59  |
| Polymyxin B                         | 66 | 64 | 29 | 8  | 0   |
| Streptomycin                        | 70 | 7  | 21 | 0  | 71  |
| Penicillin                          | 39 | 0  | 0  | 0  | 100 |

B. PROTEUS  
1953

| Drugs                               | No. of Tests | Per Cent Sus'p. | Per Cent Mod. Sus'p. | Per Cent Mod. Resist. | Per Cent Resist. |
|-------------------------------------|--------------|-----------------|----------------------|-----------------------|------------------|
| Chloramphenicol                     | 80           | 54              | 26                   | 13                    | 8                |
| Chlortetracycline                   | 78           | 5               | 12                   | 5                     | 77               |
| Oxytetracycline                     | 80           | 8               | 9                    | 6                     | 78               |
| Average of Tetracyclines percentage |              | 6               | 10                   | 6                     | 77               |
| Polymyxin B                         | 79           | 0               | 4                    | 4                     | 92               |
| Streptomycin                        | 79           | 10              | 43                   | 16                    | 30               |
| Penicillin                          | 80           | 3               | 5                    | 39                    | 54               |

1954

|                                     |     |    |    |    |    |
|-------------------------------------|-----|----|----|----|----|
| Chloramphenicol                     | 102 | 57 | 18 | 12 | 14 |
| Chlortetracycline                   | 101 | 2  | 5  | 8  | 85 |
| Oxytetracycline                     | 99  | 3  | 3  | 1  | 92 |
| Average of Tetracyclines percentage |     | 3  | 4  | 5  | 89 |
| Polymyxin B                         | 95  | 0  | 3  | 2  | 95 |
| Streptomycin                        | 104 | 10 | 39 | 19 | 32 |
| Penicillin                          | 63  | 0  | 0  | 17 | 83 |

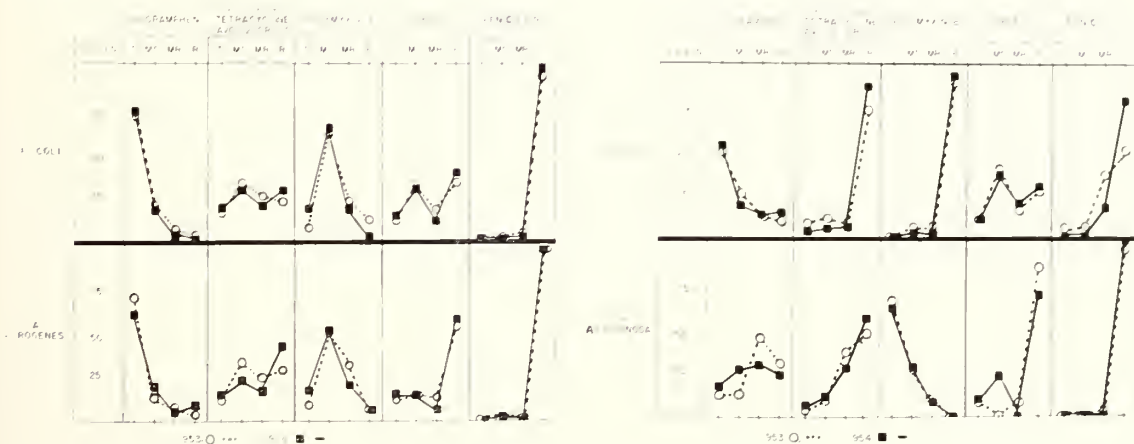


FIGURE 1. Susceptibility to antimicrobial drugs of four groups of gram-negative bacteria from urine cultures at Vanderbilt University Hospital in 1953 and 1954. The paper disk method of *in vitro* testing was used.

The data are presented graphically in figure 1 and it is readily apparent that there has been little change in susceptibility of

the four groups of gram-negative bacteria to the antimicrobial drugs in this period. An apparent decrease in the per cent of

strains of *Ps. aeruginosa* resistant to chloramphenicol in 1954 over 1953 was not of statistical significance, nor was there a significant difference in the per cent of strains moderately susceptible to streptomycin. Thus, these data show a considerable uniformity in the susceptibility of the four groups of gram-negative bacilli to antibiotics in two successive one-year periods. This same uniformity suggests that the tests have been performed and interpreted in a reproducible fashion, an observation which would have been much less certain had there been an emerging trend of antimicrobial resistance during those two years.

In describing the patterns of susceptibility it is convenient to combine the *E. coli* and *Aerobacter aerogenes* strains as the coli-aerogenes group, since the results are very similar. This is of importance since they are biologically related. The only difference in the antimicrobial susceptibility of these two groups which may be of significance is the higher degree of resistance to streptomycin among *A. aerogenes* strains. By these tests chloramphenicol was the most active agent *in vitro*, with almost three-fourths of the strains susceptible. The activity of the tetracyclines and streptomycin was similar with 20 per cent or less of strains being inhibited in each of the lower concentrations, with the remaining 40 to 60 per cent of strains falling in the resistant category. Approximately two-thirds were moderately susceptible to polymyxin B, while virtually all were resistant to penicillin.

The proteus bacilli were strongly inhibited by chloramphenicol with more than 50 per cent falling in the susceptible category, a pattern similar to the coli-aerogenes group. The tetracyclines and polymyxin B showed little activity against proteus, while streptomycin revealed about the same pattern of intermediate activity shown against *E. coli*. Penicillin inhibited a few strains of proteus in the moderately susceptible group, while most were resistant.

The most active agent against *Ps. aeruginosa* was polymyxin B with approximately two-thirds of strains inhibited in the susceptible category. In descending order of activity then followed chloramphenicol, the tetracyclines, streptomycin, and penicillin.

The values for chlortetracycline and oxytetracycline were not distinguished in figure 1, but are shown in table 2. Although small differences occurred between the two drugs in some grades of susceptibility, these differences did not follow a consistent pattern and are not considered significant. The averages shown are quite representative of the individual values.

### Discussion

In the studies just described chloramphenicol showed the greatest activity among the agents tested against *E. coli*, *A. aerogenes*, and *Proteus* species. The tetracyclines and streptomycin exhibited substantial activity against the coli-aerogenes group and streptomycin was, in addition, appreciably active against *Proteus sp.* Polymyxin B was decisively the most active against strains of *Pseudomonas*, although a few were effectively inhibited by chloramphenicol.

If no contraindications existed to the use of the various agents such as risk of toxicity or intolerance, hypersensitivity, or pharmacologic disadvantages, it would be logical to treat patients according to the order of *in vitro* activity of the available drugs. It should be immediately pointed out, however, that strict adherence to *in vitro* results may exaggerate the accuracy of the procedure as it applies to clinical usage, as, for example, the tetracyclines are less active *in vitro* against the coli-aerogenes cultures than chloramphenicol, yet large numbers of cases of infections caused by these organisms have been effectively treated with tetracyclines. This may be indicative of some inadequacy of the testing procedure to fully characterize the antimicrobial potential of the tetracyclines, or it may represent the capacity of a host to recover from an infection with only a little assistance from antimicrobial treatment. Based on this recurring observation, it has been our policy to utilize in treatment the often highly favorable clinical effect of tetracyclines and other agents even though they are less than optimally active *in vitro*. Therefore, unless patients are severely ill, or are subject to unusual hazards from infection, we have regularly selected antimicrobial treatments from among all agents which show an ap-

preciable degree of *in vitro* activity, not necessarily the greatest. Such a basis for treatment broadens the base for selection of drugs, and allows consideration of the many other factors important in clinical usage of antimicrobial agents.

Not infrequently *in vitro* tests will reveal no measurable susceptibility of a gram-negative bacillus, most often proteus or pseudomonas strains. If the patient is severely ill, it has been our policy to use combined drug treatment in these cases, and a therapy which has appeared beneficial in our hands is the combination of a tetracycline or chloramphenicol and streptomycin. At times, among pseudomonas strains, polymyxin B may be the only active agent. Because of the serious toxicity of this drug, however, we have used it sparingly and have usually attempted therapy with drug combinations, such as described above, or others.

By examination of the patterns of drug susceptibility in table 2, it is apparent that by including drugs of intermediate degrees of activity as potential therapeutic agents, selection of effective treatment could often be made without individual susceptibility tests. Although with very acutely ill patients such tests should probably be done, highly satisfactory clinical results have been achieved regularly by selections based on the foregoing considerations.

It should be emphasized that it is necessary to keep available *current* surveys of susceptibility, for Finland<sup>1</sup> has reported increase in resistance of recently isolated strains of pseudomonas to streptomycin, chlortetracycline, and tetracycline. Although the increase has not been of the magnitude of the change which has characterized the staphylococci, it may have some clinical

significance. Furthermore, the possibility of increase in resistance of other species to antimicrobial drugs cannot be disregarded, since the phenomenon is easily demonstrated *in vitro* and on occasion *in vivo*.

It is not intended to imply that the agents described in this report are the only ones useful in urinary tract infection. The sulfonamides, especially sulfadiazine and sulfisoxazole, are often highly effective in infections with the coli-aerogenes group and, to a lesser extent, with the other two groups of organisms. By *in vitro* tests they often fail to show activity because of the presence in commonly used media of sulfonamide inactivating substances. It is possible to prepare satisfactory media for such tests, and if this is done *in vitro* testing may be a useful method of deciding whether or not to use a sulfonamide treatment.

#### Summary

At Vanderbilt University Hospital a recent survey of antimicrobial paper disk susceptibility tests has revealed that the coli-aerogenes group of bacteria are strongly inhibited by chloramphenicol, followed in order of activity by the tetracyclines and streptomycin. Proteus bacilli are often drug resistant, but significant activity against them is exhibited by chloramphenicol and streptomycin. Polymyxin B is by far the most active against strains of *Ps. aeruginosa* with chloramphenicol as the next most active drug. Polymyxin B is also highly active against the coli-aerogenes group, but its serious systemic toxicity limits its use.

#### Bibliography

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## CLINICOPATHOLOGIC CONFERENCE

### City of Memphis Hospitals

Recurrent "Pneumonia," Diarrhea, Lymphadenopathy and Hepatosplenomegaly in an Infant Surviving Nine Months (Atypical Letterer-Siwe Disease)

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#### History

D. R., a one-month-old white male, was admitted May 1, 1954, with chief complaint of difficult breathing for two weeks. *Family History:* He was born 9th and had eight siblings at home, all well. Prenatal and family histories were non-contributory. Delivered by a midwife in a rural area, he was considered to be a normal 8 pound infant at birth. He suffered a bout of dyspnea and cyanosis at 5 days of age. He was treated by a local physician for this condition, together with an infected umbilical stump which became apparent at this time, and made a rapid recovery. He remained asymptomatic for about 9 days, at which time he again became cyanotic after choking on his formula. Treated with antibiotics, he made a partial recovery, but in two days choked on his formula again, and became cyanotic. After this he had several bouts of choking and cyanosis following feeding. Fearing that the child had pneumonia, he was brought to the John Gaston Hospital for treatment. The diet consisted of a 2:1 EM formula since birth.

*Examination* revealed a well-developed, well-nourished white male weighing 8 pounds, 10 ounces, with temperature of 100.6 (F.) in moderate respiratory distress. Nose and throat examination was not remarkable; the heart had a regular rhythm and rate, and no murmurs were heard; the apex was in the midchest position. The left lung field was hyperresonant and thought to be overexpanded, the right lung did not expand and breath sounds were absent. No abnormal organs nor masses were palpable. The skin was thought to be unusually dry.

*Laboratory examination* showed Hgb. 15.5 Gm. per cent, WBC 14,500 with neutro. myelocytes 2, neutro. metamyelocytes 11, neutro. bands, 12, neutro. segmented forms 34, lymphocytes 40, basophiles 1. Except for a trace of sugar, the urine was negative. X-ray films revealed a shift of the heart, trachea, and mediastinum to the right, and a marked density involving practically all the right lung. Bronchoscopy failed to indicate any evidence of obstruction: lipiodol and methylene blue instillations into the esophagus showed no sign of tracheo-esophageal fistula.

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He was treated with oxygen, mist, and antibiotics, and made a gradual recovery clinically and radiologically; gained to 9 pounds and 8 ounces by May 21st, and was discharged afebrile and asymptomatic, apparently entirely recovered, at the age of 7 weeks.

At home he remained asymptomatic for only 5 days, then he again vomited following his feeding. Thereafter he developed a cough, productive of yellow phlegm, which persisted and grew steadily worse; he lost his appetite, and "what little he did eat was vomited." He developed diarrhea, had three to six voluminous, malodorous, watery, mucoid, greenish-black stools daily for four days.

When readmitted on June 2, 1954, at the age of 2 months, he appeared somewhat dehydrated and was in moderate respiratory distress. When offered a bottle, he refused to feed. His weight at this time was 8 pounds and 14 ounces; he was afebrile. Examination revealed bilateral cervical adenopathy, mild hyperemia of both tympanic membrane and the oropharynx; the tonsils were hypertrophic. He had bilaterally equal expansions of both hemithoraces with sub-costal retraction. The right upper lung field was dull, and decreased breath sounds were noted in this area. The heart was described as normal. No abdominal masses nor organs could be felt. A red muscular miliary rash was noted over the face and trunk. There was mild circumoral cyanosis. Laboratory examination showed a Hgb. of 14.5 Gm. per cent, WBC 14,050, with a shift to the left. The urine was normal. Duodenal drainage indicated a tryptic activity of 250 units. The esopharyngeal culture yielded coli aerogenes. The NPN was 29 mg. per cent, serum cholesterol 198 mg. per cent, the EKG was interpreted as normal. X-ray films showed atelectasis in the right upper lobe with a shift of the superior mediastinal structures to the right. No centers of ossification were seen in the wrists or knees. He was treated with fluids, oxygen with mist, antibiotics, and vitamins, and made a slow but gradual recovery. He was discharged as asymptomatic on August 10, 1954, weighing 11 pounds and 12 ounces at the age of 4½ months. A "therapeutic trial" of thyroid extract was given after ossification failed to appear.

Except for occasional colds and failure to gain weight, he did fairly well at home on an increased formula and supplementary foods. He was returned to the John Gaston Hospital on November 23, 1954, for follow-up at the age of 7 months. Examination revealed, temperature 98.6 (F), pulse 140, respiration 38, and weight 12 pounds and 11 ounces. He appeared poorly nourished and lay quietly during the examination, but did not appear lethargic. The head was of normal size, shape and contour; the anterior fontanel was three fingers width. Nose and throat examination were normal, except that the tonsils were moderately enlarged and somewhat hyperemic; the neck was supple and bilateral cervical adenopathy was noted. The chest on inspiration expanded bilaterally symmetrically; the lung fields were thought to

be somewhat emphysematous. The heart was considered to be normal. The abdomen was soft, the liver was felt 2 cm. below the costal margin, the spleen and kidneys were not palpable. The musculo-skeletal system was intact, the skin had good turgor, was white, and free of the rash noted earlier. Laboratory examination showed a Hgb. of 12.5 Gm. per cent, WBC 19,000 with neutro-metamyelocytes 2, neutro. bands 14, neutro. segmented forms 60, lymphocytes 19, monocytes 2, eosinophiles 2, and basophiles 1 per cent. Platelets were adequate. RBC were slightly hypochromic. Urine was negative except for crystals, thought to be leucine. Serum cholesterol was 206 mg. per cent, serological test for syphilis was negative. X-ray films of the chest showed marked emphysematous changes with some fibrosis more marked on the right; no specific structural deformities diagnostic of any disease was seen in the bones of the spine, lower extremities and forearms. No carpal bones were seen in the wrists. It was felt that he had shown no response to the thyroid therapy, so treatment was stopped. He was sent home on November 30, 1954, without medication, to return later for PBI (Protein-bend-iodine) and radioactive iodine uptake studies.

Shortly after going home he caught a cold which, according to the mother, "developed into pneumonia." He was treated by his local physician for five weeks for repeated bouts of respiratory distress and cyanosis, but despite vigorous therapy with several antibiotics, he gradually grew worse. He was returned to the John Gaston Hospital on January 6, 1955, in extremis, age 9 months, with an erratic respiration, rate 36, pulse 180 to 200, and temperature 104.8 (F). His weight was 13 pounds and 10 ounces. His face was that of an old man, with wrinkled skin and wasted cheeks. The external nares flared on inspiration, the nostrils were filled with a fetid purulent discharge. The mouth was open on expiration; there was a circumoral cyanosis. The tympanic membranes were red, the tonsils were markedly enlarged and hyperemic. The neck was supple, but there were large fluctuant nodes along the anterior and posterior cervical chains and in the sub-maxillary region. The chest wall was thin, weak, and cartilaginous, and depressed in the upper right hemithorax; he was breathing jerkily with marked intercostal and subcostal retraction on inspiration. The left lung field was hyperresonant to percussion, the right was dull and flat; increased breath sounds were generalized over both lungs; coarse rhonchi obscured further auscultation. Heart sounds were obscure, and the PMI could not be elicited. The abdomen was protuberant and firm; the liver was down to the umbilicus, the spleen was palpable 4 to 5 cm. below the costal margin. Rectal examination was nonrevealing. Besides the cervical adenopathy shotty axillary and inguinal nodes were palpable. The skin was dry and a fine macular rash was seen on the chest and abdomen. Neurological examination was described as normal. Laboratory

examination revealed Hgb. 11.5 Gm. per cent, WBC 11,700 with a normal differential. The urine was negative. O.T.(1/1000) was negative at 48 hours. The electrocardiogram showed low voltage in all leads, sinus tachycardia, and right ventricular hypertrophy. X-ray film showed a dense consolidation extending from the right hilar region into the right and central lung fields and enlargement of the liver and spleen. He was digitalized and placed in a croupette with oxygen and mist, treated with antibiotics, fluids and supportive therapy, but without avail, and he became rapidly worse. He had a sudden cardiac arrest January 8, 1955, was given artificial respiration, intracardiac adrenalin and caffeine, but expired.

**DR. KORONES:** This was a progressively fulminating disease which first became manifest at five days of age in the form of a severe pulmonary disturbance. Death occurred at nine months of age. During the infant's first admission all diagnostic and therapeutic efforts were justifiably directed toward the lungs. The subsequent three admissions to the hospital, however, revealed enlargement of those organs in which abundant quantities of reticulo-endothelial elements are found. This was first seen as minimal enlargement of the tonsils and cervical nodes. The patient was two months of age at this time. Despite persistence of the pulmonary pathology, it is at this point that one must begin to think in terms of a disorder of the reticulo-endothelial or hematopoietic systems. Enlarged tonsils and cervical nodes are rarely seen in young infants. When this occurs one is obliged to think of diseases other than the usual bacterial infection of tonsils and cervical lymph nodes seen so frequently in late infancy and in childhood. Such suspicions are borne out in this instance, for subsequently there developed a significant generalized enlargement of the lymph nodes and further enlargement of the tonsils, liver and spleen. It is on the basis of hepatosplenomegaly and generalized lymphadenopathy that the various diagnostic possibilities will be offered. Several other aspects of this problem must be mentioned. First, an evanescent rash is described, but its exact nature (contour and blanching characteristics) is not given. Second, the peripheral blood was not abnormal even though the hemoglobin dropped somewhat during later admissions. Early forms of leukocytes were not seen. Platelets were ade-



quate. Third, there was no radiologic evidence of bone destruction. Finally, there is neither lymph node biopsy nor bone marrow specimen available. Without these, many of the foregoing remarks are necessarily speculative.

One is obliged to first discuss leukemia, and to dismiss it as a diagnostic possibility. The absence of anemia, decreased platelets, leukocytosis and early white cell forms in the peripheral blood would be most unusual in untreated leukemia which had progressed for eight months. None of these changes were present in this infant. The protocol mentions only the leukocytosis expected in acute infections. Further, if this were acute leukemia with such pronounced pulmonary changes, one should also see some manifestation of the leukemic process in one or more of the leukopoietic organs. This was not seen, when the infant was admitted to the hospital for the first time. Leukemia in childhood is most frequently seen during the first five years of life. It is less frequently seen during the first year than in the subsequent four years. An onset at five days of age must be considered rare. It is possible that this infant's disease was present in utero, for the ossification centers at the distal femora and proximal tibiae were not present at the age of one month. At least one of these centers of ossification (tibial or femoral) is regularly seen in normal full term infants.

When the diagnosis of leukemia is considered, a bone marrow aspiration is indispensable.

Lymphosarcoma, Hodgkins' disease, and reticulum cell sarcoma cannot be ruled out without a lymph node biopsy. It is conceivable that the pulmonary distress was caused by impingement of enlarged nodes along the air passages; but again reference must be made to the extensive lung pathology seen at the onset of this infant's disease while abnormal findings in the lymph nodes, liver and spleen were not present. The fine macular rash said to be present during the second and fourth hospital admissions is not compatible with either of these three conditions.

Niemann-Pick disease and Gaucher's disease are characterized by proliferation of reticulo-endothelial elements (Macrophag-

es) which contain abnormal substances in their cytoplasm. Niemann-Pick disease, when seen in infants, usually has its onset during the last half of the first year of life. Hepatosplenomegaly is an invariable finding. Fifty per cent of these infants display the same retinal cherry red spot at the macula so consistently seen in Tay-Sachs disease. Frequently a brown-yellow skin color is evident. Apathy and progressive mental deterioration are characteristic. The diagnosis of Niemann-Pick's disease rests upon the demonstration of the characteristic macrophage which may be obtained from the bone marrow or lymph nodes. These cells are most easily demonstrated in the spleen when removal of this organ is indicated. The cell is large with a very pale, vacuolated cytoplasm when stained with hematoxylin-eosin. Sphingomyelin, the abnormal substance in the cytoplasm, stains specifically with the Smith-Dietrich preparation. Gaucher's disease is characterized by early, prominent enlargement of the liver and spleen. In the infantile form, which has its onset in the first six months of life, neurologic signs are the rule. These consist of generalized hypertonia frequently alternating with hypotonia, convulsions, opisthotonos, convergent squint and mental deterioration. The chronic form of Gaucher's disease starts later in infancy, or more frequently, in childhood. It is characterized by progressive hepatosplenomegaly. Definite diagnosis of Gaucher's disease in both the infantile and chronic forms depends on the demonstration of the characteristic macrophage. This cell has an abundant cytoplasm which appears to be wrinkled because of the fibrillar structures it is seen to contain when stained with hematoxylin-eosin. The abnormal substance in the cytoplasm is said to be kerafin. The clinical course of the patient being discussed here is suggestive of neither Niemann-Pick nor Gaucher's disease.

Histoplasmosis in its disseminated form should be considered in an infant with hepatosplenomegaly, lymphadenopathy and lung changes. The absence of anemia would be unusual in fulminating histoplasmosis. Thrombocytopenia is another feature of this disease. The radiologic appearance of the lungs is that of diffuse miliary infiltration



of the parenchyma. In the case before us there is massive consolidation of pulmonary parenchyma with no suggestion of a miliary pattern. Histoplasmosis is therefore an unlikely diagnosis. The procedures utilized for the diagnosis of histoplasmosis are the skin test, the complement-fixation test and the demonstration of organisms in stained specimens and culture of lymph nodes, bone marrow or blood.

Letterer-Siwe disease (non-lipoid reticulo-endotheliosis; acute disseminated reticulo-endotheliosis) is a fulminating process seen in infants under two years of age. Its course is seldom longer than one year. It is neither familial nor hereditary, though isolated reports of its occurrence in siblings appear in the literature. Presenting complaints include various infections, most common of which is purulent otitis media. Pneumonia is occasionally seen as an initial episode. The physical findings classically ascribed to the disease are hepatosplenomegaly, lymphadenopathy, anemia, rash and radiologic evidence of bone destruction. It is not unusual, however, to see Letterer-Siwe disease in the absence of one or more of these findings. Enlargement of the liver and spleen and a rash are rarely absent. Normal bones have been reported in some instances. Anemia has been absent occasionally. In a few cases there has been no enlargement of lymph nodes; and in others only regional lymphadenopathy has been noted. Several types of rash have been described. The most characteristic rash fails to blanch under pressure, is slightly raised, red-bronze or purple in color and is several millimeters in diameter. Fine macular, erythematous forms which fade on pressure have also been described. Several authors report rashes which resemble eczema or seborrheic dermatitis of the scalp. The radiologic picture of the lungs, when they are involved, is variable. Most characteristically the X-ray presents a ground-glass appearance. Miliary infiltrations, honeycomb lungs, emphysematous blebs and massive consolidation have all been reported. Biopsy of enlarged lymph nodes usually reveals the basic lesion seen in all involved organs. This consists of accumulations of histiocytes which obliterate normal architecture. The physical findings in this disease are mostly

due to these histiocytic accumulations. Thus, enlarged liver, spleen and lymph nodes are laden with these cells. Where bone is eroded it is replaced by histiocytes which also impinge upon the marrow. Opacities in lung roentgenograms may be accounted for on the basis of the lesion. Histiocytes are also found in the skin lesions. If blood vessels are destroyed a purpuric rash is evident, and where blood vessels are engorged because of impingement of histiocytes, the rash is miliary and fades under pressure.

The presence of this basic lesion best explains the findings presented in the protocol.

Clinical diagnosis: Letterer-Siwe Disease.

DR. HAND: This white male infant measured 66 cm. (24 inches) and weighed 15 pounds. Externally, the skin was wrinkled; no jaundice was found; no discharge was noted in the ears; the abdomen was prominent, and the right leg was edematous from fluid infusions. No rash was recorded, (a fine macular rash was described clinically 2 days before death). Internally, the liver extended to the level of the umbilicus. The lungs lay free in the pleural cavity and the pericardium was not adherent to the epicardium. The gross and microscopic findings of the individual organs were as follows:

|              | <i>This Case/Gm.</i> | <i>Normal/Age 9 Months/Gm.</i> |
|--------------|----------------------|--------------------------------|
| Heart        | 32                   | 37                             |
| Right Lung   | 140                  | 53                             |
| Left Lung    | 80                   | 47                             |
| Liver        | 360                  | 260                            |
| Spleen       | 90                   | 20                             |
| Adrenals     | 3.3                  | 4.5                            |
| Right Kidney | 26                   | 31                             |
| Left Kidney  | 26                   | 30                             |
| Brain        | Not examined         |                                |

*Heart:* The cardiac contour was normal, epicardium was smooth and glistening, no valve alteration, and no mural thromboses, myocardium red-brown. Microscopically, the epicardium, myocardium and endocardium were free of infiltration.

*Right Lung:* Figure 1. The pleural surfaces were smooth and glistening, upper and middle lobes very firm and nodular; the cut surface was dry and grey-red. The alveoli



FIGURE 1. Right Lung. Pale nodular consolidation and large lymph nodes in hilum.

were filled with a creamy grey non-caseating material. The upper lobe appeared atelectatic. The bronchial mucosa was pale and the air passages were free of gross exudate. No thrombi were found in the pulmonary vessels. The lymph nodes of the hilum were enlarged, grey and translucent. Microscopically, sections from the right lung revealed no air-containing tissue. Under scanning power large lobules were seen which consisted of a bronchus or bronchiole surrounded by a wide cuff of dense cellular tissue. The individual cells contained large nuclei which were ovoid in shape and lightly stained. The nuclei were relatively mature in appearance, with mitotic changes inconspicuous. The nuclei were surrounded by rather large amounts of dense matrix. Reticulum stain (silver) revealed striking numbers of reticulum fibers among the large cuffs of cells about the bronchi. Other areas of the right lung revealed hemorrhage and edema. Throughout the sections of the right lung the alveolar pattern was largely destroyed. There was a notable lack of poly-

morphonuclear cells. No histoplasma capsulatum were found.

*Left Lung:* The pleura was smooth and glistening, and a few grey-white nodular areas were found beneath the pleura. The lymph nodes at the hilum were enlarged and grey-white, (flesh colored). On cut surface the lung was nodular and relatively dry. There was not the diffuse consolidation as was seen in the right lung, and no bronchial obstruction was discerned. Microscopically, the left lung revealed collections of cells with pale ovoid nuclei about the bronchi and bronchioles, simulating the change in the right lung but not as extensive. In some areas the interstitium was thickened due to the presence of these cells. In other areas, the alveoli were intact with walls of normal thickness.

*Liver:* The liver edge extended to the umbilicus level and the organ appeared twice normal in size. The surface was smooth and on cut surface the tissue was pale brown, interrupted by small patchy pale 1-2 mm. grey elevated areas. No bile duct changes were observed and the liver was not icteric. Microscopically, the liver revealed large collections of cells with pale ovoid nuclei in the periportal areas, encroaching on the surrounding lobules. Reticulum fibers were abundant among these collections of cells in and about the periportal regions, as demonstrated with silver stain.

*Spleen:* The spleen was enlarged, about three times normal in size, rounded firm and pale grey. On cut surface the parenchyma was pale and the corpuscles were inconspicuous. Microscopically, the tissues were uniformly cellular and normal lymph follicles were missing. Extensive collections of large pale nuclei surrounded by eosinophilic matrix were present. These cells did not have the appearance of storage-type macrophages. Large numbers of reticulum fibers were seen among the nuclei on silver stain.

*Adrenals:* No hemorrhage, caseation necrosis or tumor formation were observed. Microscopically, the cortex of both glands was thin but the cortical tissue was preserved and no cellular infiltration was found.

*Pancreas:* No gross changes were noted. No sections were made.



**Kidneys:** The surfaces were smooth and pale. No infiltration or distortions were observed on the cut surface. The pelves and ureters were not inflamed nor were there urinary tract malformations. Microscopically, the kidneys revealed a rare collection of cells with large pale ovoid nuclei similar to those seen in the lungs, liver and spleen.

**Gastrointestinal Tract:** The serosal surfaces were smooth and glistening and no ulceration was noted. The fecal contents were watery. Microscopically, lymph follicles were enlarged and greatly altered by the presence of large numbers of cells with pale nuclei. This tissue was especially hyperplastic in the appendix where the cells had invaded the muscular wall out to the serosa.

**Lymph Nodes:** The nodes of the hilum, mesenteric and portal areas were enlarged, pale grey white and firm, some measuring as much as 2.5 cm. in diameter (figure 2).

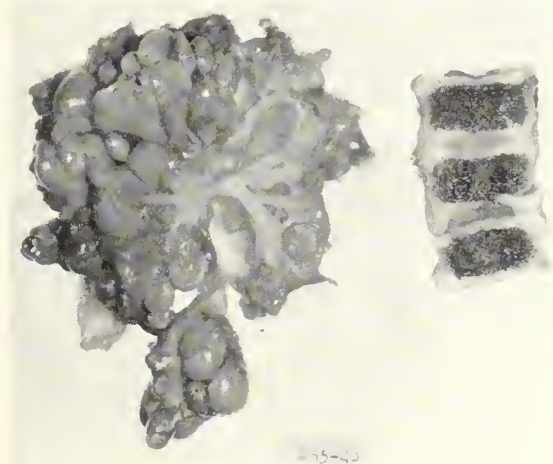


FIGURE 2. Massive enlargement of mesenteric lymph nodes. Normal appearing vertebral bone marrow.

Microscopically, no necrosis or calcification were seen. No normal follicles were discernible and the pattern was uniform due to the pale ovoid cells similar to those described below (figure 3). Lymphocytic cuffs were missing.

**Bone Marrow:** Large portions of vertebrae and iliac crest were removed and grossly the marrow dark red and soft (figure 2). Microscopically there was a normal distribution of cellular elements. Megakaryocytes were seen in almost every micro-

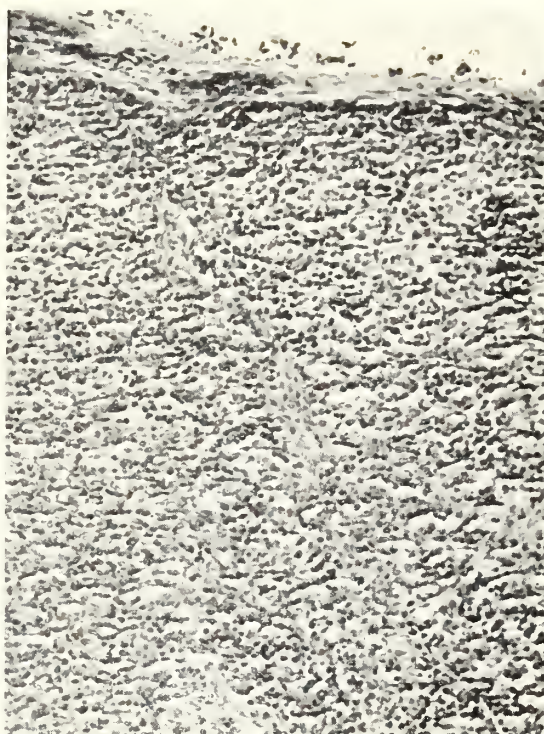


FIGURE 3. Lymph node, X 100. Uniform cellular pattern with absence of normal lymph follicles.

scopic field. There were normal proportions of erythroid and myeloid elements, (note there was no abnormal change in the character of the hemoglobin, white blood cells or platelets in the peripheral blood studies clinically). No reticulum proliferation was present. (Figure 4.) No histoplasma capsulatum identified.

**Brain:** Permit to examine brain was not granted.

**Discussion:** The histopathologic changes in this case consist of abnormal proliferation of reticulum producing cells, as demonstrated by the gross and microscopic changes in both lungs, liver, spleen, kidneys, lymph nodes, and lymphoid tissue of the gastrointestinal tract including the appendix. The individual cells were not of the malignant character seen in lymphosarcoma, but, if one saw only the lymph nodes in this case it would be impossible to exclude leukemia or lymphosarcoma. It is necessary to interpret the over-all picture of this case, we believe. The cellular infiltrate in the liver was not that of leukemia, (comparisons were made), and too, there was the absence of changes in the bone marrow evidenced by both the autopsy marrow studies



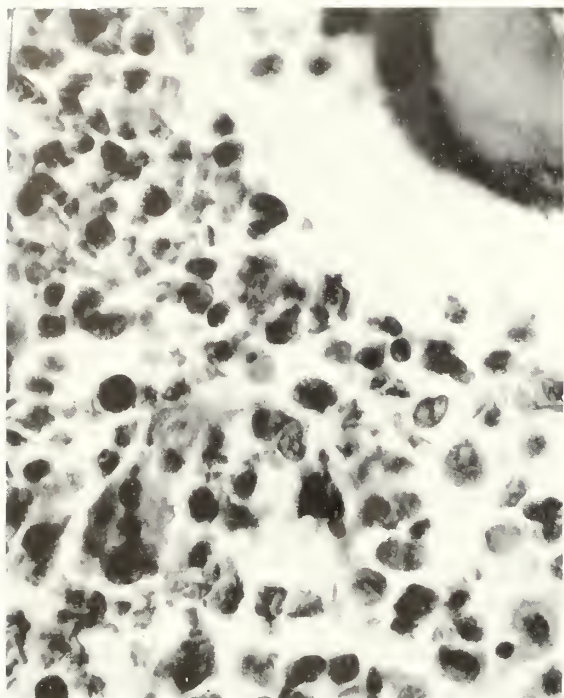


FIGURE 4. Bone marrow, X 575. Normal cellular pattern with no reticulum hyperplasia. (Compare to case of previous Clinicopathological Conference, J. Tenn. State Med. Assn. 47:249, 1954.)

and the peripheral blood findings clinically.

No cells were seen in any of the organs that supported a diagnosis of Niemann-Pick disease, Gaucher's disease or Hand-Schüller Christian disease.

Another facet of this case was the absence of reticulum cell proliferation in the bone marrow. Marrow changes are a feature of

nonlipoid endotheliosis or Letterer-Siwe disease, a more classical case of which was presented in a Clinicopathologic Conference in this JOURNAL previously, (J. Tenn. State Med. Assn. 47: 249-253, 1954). One can only speculate, as to whether this patient presented today would have developed marrow changes with alteration of the peripheral blood along the lines of pancytopenia, leukemia or erythroleukemia.

Histoplasmosis was the impression gained from the initial gross examination in this case, but macroscopic sections did not confirm this impression. We have had similar cases this year, where the diagnosis of histoplasmosis was made clinically by peripheral blood and bone marrow smears and cultures, and confirmed by postmortem examination.

We have then a case with reticulum cell proliferation in the organs named. The stimulus to such cellular proliferation is undetermined. We feel that these cells are derived from undifferentiated mesenchymal tissue.

#### Final Pathological Diagnosis

I. Non-lipoid reticuloendotheliosis, (atypical Letterer-Siwe Disease), with involvement of the lungs, liver, spleen, lymph nodes, kidneys, and lymphoid tissue of the gastrointestinal tract.

A. Growth retardation.

## President's Letter



DR. TRABUE

and the next, and the next. It would seem fitting and wise for the medical profession, through its official organizations, to take an active interest in how this money is being spent.

Perhaps there are some members of our Association who are inclined to deplore the very existence of the Fund because of the power that it gives to a labor union, or for other reasons. However, we do not object to Workmen's Compensation nor to hospital and medical care insurance carried in almost every industry. In fact we have done all that we could to encourage this type of coverage. It is true that the Welfare Fund is entirely different in many aspects but its basic aim is to provide better medical care for its beneficiaries and none of us can deny that this was sorely needed. Certainly there is historical precedent for the interest of labor unions in the field of medical care when we recall that one of the prime objects of the trade guilds of ancient Europe was to provide assistance to its members in time of illness.

The existence of the Fund is already established and our concern should be relative to its operation. Are the beneficiaries now receiving better medical care than formerly? Is the system operated within our code of Medical Ethics and within the confines of the American way of practice, with free choice of physicians? It has been my opportunity in recent months to have a long personal conference with the Executive Medical Officer of the Fund, and with the Area Medical Officer for Tennessee, to attend A.M.A. Committee meetings hearing

complaints against the Fund by physicians, and to read considerable literature on the subject. It is my strong conviction that the present administrators of the Fund are making every effort to conform in every way with medical ethics and to gain for their beneficiaries better medical care by working *with* organized medicine and providing, insofar as possible, free choice of physicians. One evidence of this fact is that over 7,000 physicians were used last year in providing their services. It might well behoove us to realize that they always have the alternative of employing physicians full time to provide these services and thus depriving the men in private practice of this large segment of their practice.

The operations of the Fund in Tennessee are not as large as in some other states and many of our counties are not affected at all. The funds are used principally for hospitalization and for the remuneration of specialists for their services, both diagnostic and therapeutic. The family doctor is left out of the picture because there are no provisions for home and office care. There is good reason to believe that the administrators of the Fund would seriously consider adopting a plan to provide home and office care, within certain limitations, if this plan is proposed by us and if we will agree to try to control any abuses in the operation of the plan through our own channels of organized medicine.

The possibilities of such a plan seem to offer a real challenge to our Association. Perhaps this is a field where Tennessee should again lead the way as it has already done in many other fields of public service. With this possibility in mind efforts are being made to formulate such a plan and it is hoped that one will be ready for the consideration of our House of Delegates next April.

A handwritten signature in dark ink, appearing to read "D. D. Trabue". The signature is fluid and cursive, with a large initial "D" and a stylized "T".

# THE JOURNAL

OF THE  
TENNESSEE STATE MEDICAL ASSOCIATION

Published Monthly

Devoted to the Interests of the Medical Profession of  
Tennessee

Office of Publication, 321-325 Doctors Building, Nashville,  
Tenn.

Acceptance for mailing at special rate of postage provided  
for in Section 1103, Act of October 3, 1917,  
authorized July 15, 1932.

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OCTOBER, 1955

## EDITORIAL

### THE TREATMENT OF ARTHRITIS

The problem presented in the management of a patient with arthritis has been a most difficult one since the beginning of early medical recordings. No one who has cared for patients suffering with joint disease could have avoided the conclusion that much that has been advised in the past has been based on chance observations and speculation rather than careful laboratory or clinical deduction. One needs to recall the various treatment fads which have reared their heads and then disappeared when contrary results resulted in decapitation of the procedure. The general crusade against foci of infection, various diet fads (gout is not under consideration), colonic irrigation, the use of colloidal sulfas, histamine, bee venom, bile salts, orthoiodoxybenzoic acid, chaulmoogra oil, and various vaccines, (particularly Crowe's of England), all are discarded testaments of

the past twenty-five years of speculative treatment.<sup>1</sup>

In a recent article<sup>2</sup> Ragan points out the importance of separating the patient suffering with rheumatoid (atrophic) arthritis from the group with degenerative joint disease (hypertrophic arthritis), and those with gout or true infectious arthritis, or from conditions in which joint disturbances are a reflection of a systemic disease process such as disseminated lupus erythematosus, and rheumatic fever. In this exercise it is well to remember that rheumatoid arthritis involves the wrists and the proximal interphalangeal joints symmetrically. The joints are persistently involved, and there is an associated elevation of the erythrocyte sedimentation rate, changes of generalized and localized demineralization and loss of joint space as shown by the X-ray. Frequently juxta-articular nodes are seen and the serum of the patient usually contains agglutinations for sheep cells, sensitized to the streptococcus.

In the evaluation of treatment, it must be remembered that rheumatoid arthritis usually begins insidiously, and in the early stages spontaneous recovery follows. It is also difficult to correctly assay the net result of any specific therapeutic measure in the light of our inability to chart the course of the disease for either the better or worse career. The attendant must, therefore, adopt a long-term viewpoint at the very outset of his efforts. Points emphasized are the relief of pain, with the help of many non-habit forming anodynes, and the treatment is begun preferably in a hospital for a period of about two weeks. The prevention of contractive deformities is important.

Specific therapeutic agents stressed are, gold salts, which can be used in an ambulatory patient, and when helpful can be of extreme value. However, a considerable percentage of patients are not helped and recurrence of the process is common. Toxic reactions are less troublesome now than formerly.

<sup>1</sup>Weinstein, Albert: The Problem of Arthritis, J. Tennessee M. A. 32:113, 1939.

<sup>2</sup>Ragan, Charles: The Present-Day Management of Arthritis, J. Chronic Dis. 1:253, 1955.



The hormones, ACTH and Cortisone, may produce dramatic immediate relief from pain. This relief is usually present only when the hormones are being employed in full measure and the unhappy and undesired metabolic side effects are more than a mere nuisance.

Phenylbutazone (Butazolidine), in addition to having toxic side-effects helps mainly patients with spinal osteoarthritis or gout and accordingly should not be generally employed in treating patients with rheumatoid arthritis.

In short, the treatment of rheumatoid arthritis remains a studied problem.

A. W.



### THE DOCTOR IN COURT

Most of us who have testified in court have at sometime left the witness stand in complete frustration at the least, or even in impotent fury, having just been manhandled intellectually by some attorney. Our integrity may have been impugned, our experience flaunted in the face of the jury as insignificant or inconsequential, and we may have been made to appear ignorant of even basic knowledge in medicine, having been denied the freedom to qualify answers or statements.

This had led to belligerency on the part of both the medical and legal professions. Members of each often face the other with a chip on the shoulder. But hope as one may, it is only the occasional doctor who avoids a day in court. Because of the frequent experience as has been described the doctor understandably avoids a summons; in addition there is the seeming callousness of the lawyers for the doctor's time, or his patients' health and convenience, as the doctor witness cools his heels for hours awaiting his turn on the stand. The attorneys are well aware of the reluctance of the members of the medical profession to appear in court and the subterfuges which may be used to avoid the witness stand. Thus the legal profession accuses the medical profession of being egocentric, selfish and uncooperative. So when these professions meet in the courtroom the doctor is on the defensive and the lawyer may be in a baiting mood.

This was the reason for the Medico-Legal Liaison Committee coming into being, a joint committee of the Tennessee State Medical Association and the Tennessee Bar Association. The Committee's planning culminated in a series of Medico-Legal Clinics in a half dozen Tennessee cities. The objectives of these meetings were to acquaint the members of each profession with the outlook and attitudes of the other, permitting of a better understanding, and leading to better cooperation.

These joint sessions were held some months ago in the cities of the State to reach the majority of doctors who will need to appear in court at some time. Since, for one reason or another, only a minority of the medical profession was able to attend the meetings, your editor thinks it appropriate to publish a couple of examples of the material presented at the "Clinic." The first of these outlines the principles or philosophy which are the basis of the meeting of doctor and lawyer in the courtroom. It will be most helpful if the doctor will keep these points in mind as he is sworn in preliminary to testifying.

Only good can come from such meetings of the medical and legal professions outside the courtroom. The Medico-Legal Liaison Committee should continue its efforts at intervals to bring as many of their respective profession into an acquaintanceship with the other as possible. It is hoped this will continue.

R. H. K.



### A DECADE OF BLUE CROSS

In mid-October the Tennessee Hospital Service Association will celebrate the Tenth Anniversary of its founding. It and its sister organizations of the other states and the commercial carriers of the country have played probably the major role in postponing, at least to date, some form of compulsory health insurance.

Blue Cross and Blue Shield deserve especial recognition on this anniversary since this organization only, for practical purposes, has been able to offer low-cost voluntary insurance against the cost of hospitalization to many who otherwise would have been unable to obtain it. Other carriers of

such insurance have had to limit their efforts, in the main, to industrial groups, thereby offering little to the individual not employed in industry.

This is a salute to the success of Blue Cross in enrolling 623,064 people of Tennessee in its hospitalization plan, reflected in a total payment to member hospitals of \$6,337,570.50 in 1954.

R. H. K.

★

## **Special Item**

### **The Doctor as a Witness\***

Edward T. Brading, M.D., Johnson City, Tenn.

Gentlemen of the Legal and Medical Professions: The French have a saying that if you know all, you will understand all, and if you understand all, you will love all. It is too much to ask that such an ideal state should exist between the members of our great professions, despite the Biblical injunction to love one another, but to paraphrase the above saying I can state that anything which contributes to knowledge, each of the other, will contribute to mutual understanding and further that which contributes to mutual understanding will contribute to mutual respect, if not affection.

Physicians and lawyers have much in common. In the first place they are members of a profession and while a professional man may be as difficult to define as a gentleman, there is a kinship of viewpoint and attitude among professional people. Physicians and lawyers have another common bond in that they both make their living out of the misfortunes of others. Few patients allow their physicians to practice preventive medicine and few clients consult their lawyer before they are caught in legal entanglements. When the vast majority come to consult the doctor or the attorney, they are already in trouble and come seeking help to relieve on the one hand their conflict with the law on the other hand their conflict with disease. The corollary of this constitutes the third bond between the two professions in that in a very particular and

definite way the doctor and the lawyer is each an advocate. Every doctor struggles manfully to save the life of an individual even if evidence would indicate that the person would be better off dead and every lawyer, by the demands of his calling, defends and protects people who under different circumstances he might think would be better off in jail and belong there. Legal reputations are not built on lost lawsuits or long terms in the penitentiary and the doctor's reputation is not based upon tombstones in the cemetery. No man is so dissolute nor his transgressions against the laws of nature so bad, but he can call upon the doctor to treat and help him and no man is so blackened with violations of the law, but that he can call upon the attorney to protect and defend him. Being advocates, therefore, it is not the province of physician or attorney to judge the client or patient, but it is his immediate and particular duty to employ every legitimate effort to restore, if he can, the person who needs help to legal or physical health or mitigate his legal or physical suffering. Thus, when the doctor comes into court as a witness, he comes before two attorneys, each dedicated to a client on opposite sides and each duty bound to bring out to the utmost the evidence in favor of his client. It is no wonder that the physician caught in such a situation should dread appearing in court and knowing little of courts and their procedures, be bewildered, at times hurt, or even angry. It is understandable that he may leave the court damning the lawyers as a group of people who in their pursuit of winning the case, ask incomprehensible questions, waste precious time, and haggle over inconsequential matters. He retails his experience to others and adds to their understandable and natural reluctance to appear in court and to their determination to avoid it at all costs. This attitude in turn inspires the lawyer to condemn doctors as people unmindful of their duties and lacking a feeling of obligation to the forces of law and order.

Unfortunately, there is something to be said on both sides. There are a minority of lawyers, who in their eagerness do waste time, do haggle over inconsequential matters, and do overstep the bonds of propriety

\*Read before a Joint Meeting of the Washington-Carter-Unicoi Medical Society and the Washington County Bar Association, January 6, 1955, Johnson City, Tenn.

in trying to bully witnesses. There are on the other hand physicians who regard courts as a nuisance, an impediment to their practice, and who look upon all court matters with deeply jaundiced eyes. It is my own experience, however, that this attitude is characteristic of a very small percentage of men in both professions. The doctor, too, may frequently forget the fact that the lawyer is an advocate and may feel that as a witness he is caught between the upper and the nether millstones of two contesting gladiators for whom the judge acts as referee, awarding the pieces of skin as they are ground off the witness first to one side and then to the other.

My own experience as witness in court began in the days of the depression. For two or three years I acted as expert witness in a series of lawsuits brought against our local rayon manufacturing firms and those three years constituted a liberal education in court procedure. At that time numerous suits were brought against these corporations on account of the fumes from their plants. This was nothing more than an odor of carbon bisulfide, but it is amazing to think of the dire consequences that followed the spreading of this dilute scent over the countryside. Strange as it may seem, these fumes caused vegetables to rot, trees to decay, cattle to die, streams to be poisoned and were responsible for bodily ills ranging in severity from dandruff to cancer. The physical conditions which it was alleged were brought about by the inhalation of these fumes covered the entire gamut of pathology. During those years I spent much time sitting in courtrooms in this and neighboring towns, and I can say that in all those years, with few exceptions, I was treated courteously by the lawyers. I did feel at times, very definitely, that the attorneys wasted my time, but when this was called to their attention, they almost invariably cooperated in doing what they could to save time and make the hour of testifying as convenient as possible. Moreover, I can certainly say that in the vast majority of instances when I was on the witness stand, I was treated respectfully and courteously by members of the Bar.

To doctors who may be called as witnesses

in court I would state the following counsel which I hope will be of some help:

1. A doctor should feel it his duty to go to court as witness when such appearance is necessary. The administration of justice may be a slow and tedious process, but it is nevertheless an extremely important and vital part of our civilization and no doctor who is a citizen or who has the feelings of obligations of a citizen should avoid playing his part in helping the administration of justice.

2. The doctor should go into court as a duty, but without qualms and without fears. He is always clothed in the armor of knowledge that the poorest doctor knows more about medicine than the most brilliant attorney, and that the attorney is examining him upon his own ground and in his own field. This in itself is a tremendous advantage to the physician and a tremendous protection to him. He should, therefore, go into court without fear and without apprehension.

3. It is important that the doctor, before he testifies, be prepared as to the facts in the case. His examination of the patient should be thorough, careful, detailed and written and his opinions, as expressed, should have behind them the evidence of the physical examination, the history, the laboratory, or whatever collateral evidence is necessary to support the opinion he expresses. For the medical witness the Boy Scout motto of "Be Prepared" is a good one.

4. He should try to make his testimony as clear as possible and expressed with as little technical language as possible. Technical language to one who is unfamiliar with it is often more confusing than clarifying and while it is difficult at times to avoid it, it is necessary and helpful to do so. If a term used in common language will convey the same thought, it is much better to use it and if technical terms have to be used, an explanation of them in common language should be made. There are few technical terms, always allowing for oversimplification, which cannot be reduced to the common denominator of ordinary language if the effort is made.

5. The doctor should take his time in answering questions when on the stand. He should make his testimony as brief and to



the point as possible and should not hesitate to take the time to formulate a clear answer. A few well chosen words can tell more and leave a more lasting impression than paragraphs of explanatory language.

6. The medical witness should not show favoritism or bias. It is not his place to be an advocate of one side, regardless of who retained him. He should not hesitate to admit points, if true, that may favor the side other than the one by whom he was summoned. For a doctor to be compelled to grudgingly admit such points definitely detracts from the value of his testimony. He should, however, correct to the best of his ability any misleading statements or inferences that may arise from his examination.

When the doctor goes into court prepared with the facts, when he is honest and fair, when he gives opinions only when he has facts and evidences to support them, when he makes a conscientious effort to make his testimony as clear as possible, he has nothing to fear from either court or lawyer, either as to embarrassment on the witness stand or as to adverse criticism outside of court.

In one of the famous trials of this century this point was brought out very clearly. I am referring to the second Alger Hiss trial before Judge Henry W. Goddard and to the testimony of a psychiatrist, who was an expert witness for the defense. It is evident from an impartial appraisal of the doctor's testimony that he had formed an opinion and made a diagnosis first and then looked widely for facts and evidence to support that opinion and diagnosis. He had, as it were, thrown out a dragnet hoping to bring in any sort of evidence that would support his preconceived ideas and diagnosis. This is self-evident to the lay mind who reads his testimony and is obvious to any member of the profession. When he was cross-examined in court a large part of his testimony was made ridiculous by the cross-examining attorney, Mr. Murphy, and the result of the cross-examination was to greatly discredit the doctor and his testimony. The unfortunate effect of this was the doctor's own fault, because he had based his testimony upon a preconceived prejudiced idea and the prosecuting

attorney in cross-examining him very clearly brought out his prejudice and his failure to impartially appraise all the evidence and factors involved. Such an episode does no good for either the profession or the individual witness. It is, therefore, important for the doctor to remove from his heart, as much as he can, bias and favoritism and let his opinions rest upon data and facts and evidence which he as a physician has studied and evaluated.

Our legal friends may sometimes feel that doctors are somewhat biased in their testimony in favor of the individual. I have heard this criticism from excellent attorneys and it is not without merit. I hope, however, that our legal brethren will remember that doctors primarily minister to individuals. Their acquaintance with corporations and impersonal organizations are meager to say the least, but their acquaintance with the individual is broad and varied. They are employed as advocates by the sick and the very dependence by the sick individual upon the doctor may lead him to give the benefit of the doubt, where doubt arises, to the individual. I think doctors do this more or less instinctively and rightly so, for after all the individual contending with the corporation or with large aggregates of capital, does not have at his hand resources equal to those that are arrayed against him. The courts as well recognize and in effect promote the resolution of doubtful testimony and evidence in favor of the individual.

I am greatly pleased that the representatives of these two great professions can come together for this joint meeting. I am sure that such a meeting can be very conducive to better understanding each of the other. I hope that these remarks that I have made will bear some weight and will be of some help.

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### **Traumatic Neurosis and the Malingering\*** **Andrew Mayer, M.D., Nashville, Tenn.**

It is a pleasure to appear on this program where segments of two great professions

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\*Read before the Medico-Legal Clinic, sponsored by the Nashville Academy of Medicine and Nashville Bar Association, March 9, 1955, Nashville, Tenn.

meet to discuss some of their common problems. For more than 20 years I have had a continuing association with the legal profession and have been subjected to the varied temperatures of the witness chair in several states. In some of my earlier experiences I received a most thorough roasting; in fact, I was quite well done. But through the years the heat of the chair has seemed less intense. Whether this be due to less enthusiastic "foxes and bears" or to a cooler and tougher "Brer Rabbit" I do not know. Nevertheless, it has been a most enjoyable experience. In middle Tennessee and the city of Nashville we have both a medical and a legal profession of high ethical standards of which all may justly be proud.

I expect that most of you are asking, "Why should a surgeon and not a psychiatrist be discussing this subject?" This is a logical question deserving an answer. Almost all cases involving trauma are first seen by those who are trained in the treatment of traumatic diseases. These physicians, seeing large numbers of injured persons, should have sufficient knowledge of psychiatry to determine the relative importance of the psychic factor. They should have a knowledge of its incidence, its early recognition, and its means of prevention. Ideally, it would be fine to have every case of trauma seen from the beginning by a battery of specialists, including a psychiatrist; but this is obviously impractical and economically not feasible. There will never be a sufficient number of trained psychiatrists to treat all patients having psychic disturbances, either in a pure form or allied with some other disease. Thrift of manpower necessitates that the psychiatrist be utilized only for referral of those cases that cannot otherwise be managed. I must join the group of the medical profession who feel that specialization and segmentation in medicine will (if it has not already done so) reach the point of diminishing returns in therapy if we are not constantly aware that we are treating patients and not organs or systems.

What I have to say in the brief allotted time will, of necessity, not be all-inclusive. This subject may be discussed in a variety of ways. It would, no doubt, be more entertaining to relate the history of patients—

some amusing, some comical, but more often pathetic. However, I believe there are more important fundamental aspects of the subject, and these I have chosen. I shall at first define certain terms; secondly, discuss briefly the malingerer; and thirdly, suggest a method of approach to the general problem of the neuroses as related to patients who have incurred physical trauma.

With a special apology to any of my psychiatric colleagues present, I will try to use simple terms; these may not be entirely scientific but are more appropriate I believe. Some may not agree with my definition of terms, but they will serve as a guide for the remarks that will follow.

#### Definition of Terms

*Neurosis:* A set of symptoms due to emotional conflict, in which the patient subconsciously makes an inadequate and unsuccessful attempt to restore emotional equilibrium. Emotions are the expression of inner impulsive forces, and we recognize several different types such as fear, rage, grief, loneliness, love, etc. When the adult has failed in learning how to harmonize these emotions one with another and with the realities of his environment, he reverts to an infantile state which manifests itself by varied forms of behavior. The various types of neuroses and methods of classification will not be discussed.

*Traumatic Neurosis:* The term "traumatic neurosis" is misleading, implying trauma as the sole cause of the neurosis. Since we have it and must define it, we will define it thus: a neurosis either existing with, precipitated or aggravated by, or in rare instances caused by the trauma.

*Malingering:* Willful and conscious falsification.

The symptoms and signs of a given patient place him in one of the following groups: (1) pure malingering; (2) pure neurosis; (3) pure trauma; and (4) mixed,—trauma, neurosis, and malingering, a combination of any two or all three.

#### The Maligner

Malingering may be applied to any disease state. Malingered psychosis may frequently be seen in criminal cases. However, the fear of hospitalization in a mental institution makes it rare in other situations.

Malingering in cases of trauma may show willful exaggeration of the injury; outright faking of the injury; or even the more difficult state of detection, i.e., malingered neurosis. Pure malingering in cases of trauma is rare; however, a mixture of trauma, neurosis, and malingering is a very common occurrence. I shall not detail methods of diagnosis, but I do wish to emphasize that a diagnosis of malingering or an estimation of degree in a mixed state may defy available methods of diagnosis of the most skilled psychiatrist. Detection may well rest on the astute observation outside the realm of medicine of a skillful detective. I refer you to Davidson's *Forensic Psychiatry* where he lists ten criteria for differentiation of a true neurosis from a malingered one.

#### Suggested Approach to the Problem of Neurosis

*Recognition of an Emotional Factor Existing.* Physicians are frequently lax in early recognition of the emotional factor, and thus they allow a neurosis to reach full bloom. Let us remember every time we see an injured patient that within the brain of each lies a certain variable potential for a case of neurosis. Whether this potential is released or not may lie within our hands. If the neurosis is there, let us try and see it as well as the diseased organ or system we so well know how to restore the patient to normal.

*Relationship to Trauma.* It is important that a careful determination be made of the relationship of an existing neurosis to any traumatic condition. The physician may save himself future embarrassment by considering the following questions and answers:

1. Is trauma the sole cause of the neurosis? It is in a few cases of head injury.
2. Is trauma a major precipitating factor? It is where evidence of pre-existing emotional instability can be established, and where it is reasonable to presume that the symptoms would not have occurred at this time without the trauma.
3. Is trauma an aggravating factor? It is if an existing neurosis becomes materially more severe following trauma.
4. Is trauma entirely unrelated? We may presume it unrelated under the following

conditions,—(a) no material change for worse in a neurosis existing at the time of trauma; and (b) the appearance of the neurosis following an asymptomatic period of 30 to 60 days from the date of trauma.

*Prevention.* Prevention can be most effective when we know causes. Therefore, I suggest to you some major causes of these problems.

1. *Primary Cause: Fundamental psychopathic condition.* There is sound evidence to substantiate the fact that most patients showing a neurosis in relation to trauma are basically neurotic, with the exception of a few cases of head injury. Trauma is only a precipitating or aggravating factor. This raises again the medicolegal question that has been the subject of more legal than medical discussion in the past, "Just how far can one carry the point of liability of one person for another, or to what length should the law protect one against the invasions of his mental tranquility by another?"

In my opinion it would seem fair to hold that no greater liability should be assumed for one who by nature is excessively vulnerable to injury than for a normally constituted person, when the idiosyncrasy is not known in advance and a mere act of negligence has precipitated the neurosis. Physicians have a great responsibility in assuming a firm attitude toward clarification of this phase of the subject.

Under our present laws a distinct imbalance of legal responsibility exists with a preponderance of weight against employers and insurance carriers. We may well be approaching a time when pre-employment examinations will become so rigid as to exclude from employment a vast army of people who present variable handicaps of body or mind. The solution to such a waste of productive manpower rests on a change in the law towards a more equitable division of responsibility.

#### 2. Secondary Causes.

(a) *National Trend of Individual and Governmental Philosophy.* For the past two decades the American people have been subjected to the teachings of an old, alien, morally and mentally degrading philosophy of government, under the guise of something new and progressive. Expressed in



simple terms, the underlying basis of this philosophy is that you can get something for nothing and, worse still, that it is quite in keeping with good morals. As a result, a larger and larger segment of our people have become spiritually bankrupt and are conditioned subjects for the various neuroses on the slightest provocation.

*(b) Individuals Most Intimately Surrounding the Patient.*

*Family and Friends* of the injured person add their effect of either nourishing a neurosis or assisting the physician to relieve it.

*Employers*, by their attitude toward their employees before or following an injury, may prevent or may be a contributing factor in the development of a neurosis.

The *Physician* stands in the key position for prevention of a neurosis. By early recognition of the latent potential, accurate diagnosis, a sympathetic but firm attitude, and counteractions against external influences, prevention may be affected by the physician. Otherwise, he stands condemned as contributing to the already bad situation.

The *Lawyer*. This is a claim age in which we live. A distinguished jurist recently said, "In this claim age a paradox exists; the lawyer makes the diagnosis, and the physician produces the liability." I do not presume to suggest any alteration in the basic philosophy of law. However, many able and conscientious lawyers, in their zeal to protect their clients, are unwittingly the cause of many neuroses. A court settlement does not cure a neurosis. Some of the most miserable and pitiful creatures are those exhibiting the chronic neurotic state long after obtaining a handsome monetary settlement for injury. Therefore, I suggest that each lawyer give careful consideration in each case that the future welfare of his client may not be marred by an apparent present benefit.

*Treatment.* The necessity for treatment can be made infrequent as efforts toward prevention are increased. Details of treatment will not be discussed, but it should be emphasized that a neurosis does not remain static. The longer initiation of treatment is delayed, the more difficult it becomes; and the patient comes closer to that deplorable state of neurotic exhaustion. Cases not responding to treatment by the attending

surgeon should be referred to a psychiatrist. Pending legal action will no doubt make treatment more difficult, and prompt settlement is advisable. I say again that I believe the often-heard statement, "A court settlement cured the neurosis," is a fallacy. Such prompt disappearance of symptoms following legal settlement suggests an erroneous diagnosis of *neurosis* for that of *malinger-ing*.

### Conclusions

In conclusion, I want to emphasize again the magnitude of the problem of neurosis and its serious consequences and to urge upon all of you renewed efforts directed especially toward prevention.

The responsibility rests upon these two great professions to assume with unselfish devotion the duties of rectifying the evils of the present situation.

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## DEATHS

**Dr. Charles Bonham Jones**, Knoxville, died August 11th at Fort Sanders Hospital in Knoxville. He was 89.

**Dr. Archibald W. McNeal**, Knoxville, died August 21st in Coral Gables, Florida. He was 81.

**Dr. James M. Capps**, Kenton, 38, died September 9th in a Kenton hospital.

**Dr. John James Post**, Nashville, 62, died August 13th at Vanderbilt Hospital. He had been in ill health for several years.

**Dr. William P. Wood, Sr.**, died at his home at Strawberry Plains on September 3 at the age of 86. Dr. Wood, who received his M.D. degree from the University of Tennessee Medical Department in 1894, was active for many years in organized medicine. He began practice in Knoxville in 1913, and was one of the founders of the Fort Sanders Hospital. He was president of the Knox County

Medical Society in 1924, held posts of one type or another in the County and State medical societies including the presidency of the Tennessee State Medical Association in 1932. He was the father of five doctor or dentist sons, one of whom, Dr. Robert B. Wood, is the president-elect of the Tennessee State Medical Association.

## PROGRAMS AND NEWS OF MEDICAL SOCIETIES

### Knoxville Academy of Medicine

At its regular meeting on September 13th, the scientific program consisted of a panel discussion by orthopedic surgeons, as the subject of "Differential Diagnosis of Complaints Referrable to the Neck, Shoulder and Arm Regions." The discussions were by Drs. Leon Willien, Robert Brashear, E. L. Tauxe, Thomas Stevens and Sidney L. Wallace.

### Memphis-Shelby County Medical Society

The Society met on August 2 in the Institute of Pathology Building. The program was entitled "Diagnosis Today." The subjects presented were "Fibrinogenemia" by Dr. Henry Turner, "Diabetes Mellitus" by Dr. Cleo Stevenson, and "Post Anesthetic Complications" by Dr. Ray G. Stark.

### Nashville Academy of Medicine and Davidson County Medical Society

The Society held its first meeting of the fall at St. Thomas Hospital on September 13th. The scientific program consisted of "Cataract Extraction with Particular Emphasis on Early Ambulation" by Dr. George Bounds, and "Pulmonary Infarction in Buerger's Disease" by Dr. Laurence Grossman.

### Roane County Medical Society

The Society met on August 30th at the Oak Ridge Hospital. A. G. Krammer, M.D., Department Head of Occupational Health, Graduate School of Public Health of the University of Pittsburgh, gave a paper on "The Science of Prevention in Industry."

### Consolidated Medical Assembly

The Consolidated Medical Assembly of West Tennessee heard two native Jackson

physicians on September 6th. Dr. Hugh Luckey, Dean of Cornell University Medical College, and Dr. W. T. Fitts, Jr., Associate Professor of Surgery at University of Pennsylvania Medical School, were the speakers. Dr. Luckey's paper was on "Management of Congestive Heart Failure" and Dr. Fitts' paper was entitled "Surgery of the Adrenal Glands."

### Chattanooga-Hamilton County Medical Society

The Society held its meeting on September 2nd at the Fairyland Club. The members of the Society were guests of the President. The speaker was Dr. Charles C. Traubue, IV, of Nashville, President of the Tennessee State Medical Association.

## NATIONAL NEWS

### Largest Polio Vaccine Allocation Made to States

The Public Health Service on September 1 made its third and largest allocation to date of the Salk poliomyelitis vaccine to states and territories for use by public agencies and private physicians. The latest allocation amounts to 3,348,000 cc. Previous allotments were: 846,000 cc. on July 31 and 1,177,000 cc. on August 9, bringing the total to 5,371,000 cc. or enough vaccine to give 2,685,500 children two injections each. Under the voluntary control program sponsored by the administration, each state decides how much of its share it will distribute through public agencies and how much through commercial channels. Each state's share is governed by its proportion of unvaccinated children in the 5 to 9 year age group, which is the current priority range.

Latest PHS figures on free vaccine administered by the National Foundation for Infantile Paralysis show 6,443,000 children inoculated through August 20. Of this group, 960,000 had received second injections and 26,000 children booster injections. The PHS Poliomyelitis Surveillance Unit reports that through August 27 it had accepted 181 paralytic and 234 non-paralytic cases of polio among vaccinated persons but that it is still too early to draw any conclusions on the efficacy of the vaccine. The unit will have to wait until it has complete information on incidence among vaccinated and non-vaccinated children of comparable age.

### U. S. Government Is Big Business

We often hear the expression that government today is big business. For supporting evidence all

one has to do is review the number of legislative bills that were poured into the Washington hopper during the first half of the 84th session of Congress as compared with those introduced in the 83rd Congress, which extended from January, 1953, to the end of December, 1954.

When the A.M.A. Committee on Legislation met in Chicago recently, it was revealed that in the 83rd Congress a total of 16,470 bills were introduced in both sessions and that 407, pertaining to medicine, were reported in the A.M.A. Washington Letter.

In the first half of the 84th Congress beginning in January, 1955, a total of 11,914 measures were introduced and 403 of these, pertaining to medicine, were reported. The number of medical bills introduced during the first session of the current congress was only four less than the total introduced during both sessions of the previous Congress.

This means that from a medical standpoint our legislative load is exactly twice as heavy as it has been for the last two years.

### Economic Study

An exhaustive study of the economic position of medical care during the past 25 years has been published by the A.M.A. Bureau of Medical Economic Research. Most significant finding centers on a fourfold increase in gross national products with much less increase in medical expenditures. Since World War II, increased costs have been because of birth-rate upswing in the total picture. The study appears in consecutive issues of the Journal of the American Medical Association beginning September 3.

## MEDICAL NEWS IN TENNESSEE

### Cancer Detection

More and more Tennesseans are seeking early diagnosis for possible cancerous tumors. The Tennessee Division of the Cancer Society emphasizes the importance of periodic examinations and early diagnosis of cancerous conditions.

The quickened interest in periodic examination and early diagnosis on the part of the local physician as well as the patient has made it necessary for the tumor clinics which have a working arrangement with The American Cancer Society, Tennessee Division, insist that those who wish to use the services of these clinics adhere to a schedule of "clinic days." The following is the schedule of clinics and the days of the week in which patients should be referred to the Clinics:

### Cooperative Cancer Clinics in Tennessee

#### MEMPHIS

West Tennessee Cancer Clinic  
787 Jefferson Avenue  
Memphis, Tennessee  
Time: Monday, Tuesday, Thursday and Friday  
Hours: 8 a.m.-12 Noon

#### NASHVILLE

Nashville General Hospital Tumor Clinic  
Hermitage Avenue  
Nashville, Tennessee  
Time: Tuesday  
Hours: 12:30 p.m.-4 p.m.  
Hubbard Hospital Tumor Clinic (Colored)  
1005 Eighteenth Avenue, North  
Nashville, Tennessee.  
Time: Monday and Thursday  
Hour: 11 a.m.  
Vanderbilt University Hospital Cancer Clinic  
Twenty-First Avenue, South  
Nashville, Tennessee.  
Time: Wednesday Thursday Friday Saturday  
Hour: 1 p.m. 9 a.m. 9 a.m. 9 a.m.  
Type: E.N.T. Surgery Gynecol- Neurosur-  
ogy gery

#### CHATTANOOGA

Chattanooga Tumor Clinic  
Erlanger Hospital  
Chattanooga, Tennessee  
Time: Tuesday Friday  
Hour: 12:30 p.m. 12:30 p.m.

#### KNOXVILLE

East Tennessee Cancer Clinic  
Knoxville General Hospital  
Knoxville, Tennessee  
Time: Thursday  
Hours: 12:30-3 p.m.

#### JOHNSON CITY

Tri-County Cancer Clinic  
Memorial Hospital  
Johnson City, Tennessee  
Time: Thursday  
Hour: 1 p.m.

#### KINGSPORT

Holston Valley Community Hospital Cancer Clinic  
Kingsport, Tennessee  
Time: Friday  
Hour: 1 p.m.

#### BRISTOL

Bristol Memorial Hospital Cancer Clinic  
Bristol, Tennessee  
Time: Friday  
Hour: 1:45 p.m.

#### JACKSON

Jackson-Madison County General Hospital  
Cancer Clinic  
Jackson, Tennessee  
Time: Tuesday  
Hours: 10 a.m.-12; 1 p.m.-4 p.m.



## Tennessee Polio Cases Only One-Third of Last Year

The State Health Department reported recently that only 90 cases of polio were reported during the year as compared to 245 cases reported last year. The breakdown of the 90 cases included 37 in West Tennessee, 31 in East Tennessee and 22 in Middle Tennessee.

## State of Tennessee Department of Public Health

The following letters were sent from the Department:

TO: Administrators of all General Hospitals in Tennessee

FROM: Dr. R. H. Hutcheson, Chairman of the Hospital Licensing Board

SUBJECT: Prevention of Retrolental Fibroplasia

Retrolental fibroplasia in the past few years has emerged as the principal cause of blindness in children. There has appeared recently strong evidence of a causal relationship between oxygen therapy and retrolental fibroplasia in premature infants.

Because of the importance of this disease as a health problem and because it is largely preventable, the following recommendations concerning the administration of oxygen to premature infants are being sent to all licensed hospitals in Tennessee.

1. Oxygen should be administered only to definitely cyanotic infants and then only at a concentration below 40% for limited periods. However, during phases of extreme respiratory distress oxygen in excess of 40% may be required for a short period of time.
2. During administration, the concentration of oxygen should be checked at least every eight hours with an oxygen analyzer.
3. If an oxygen analyzer is not available the flow rate should be accurately determined by a factory representative so that a reasonably accurate control of the oxygen concentration can be attained.
4. Any order for continuous oxygen therapy on any newborn infant should be renewed daily.
5. The medical and nursing staffs in all hospitals should be thoroughly indoctrinated on the dangers of oxygen excess.

If you have not done so, it is strongly recommended that this matter be brought to the attention of your hospital's Board of Directors with the recommendation that some appropriate hospital regulation be adopted including applicable portions of the above recommendation.

### SPECIAL LETTER

TO: Licensed Physicians in Tennessee

SUBJECT: Biopsy Service for the Early Diagnosis of Cancer

Dear Doctor:

The purpose of this letter is to send you a list of the pathologists who are participating in the biopsy service for the early diagnosis of cancer for the fiscal year 1955-56. You will note that there has been a change in this list. Physicians in Middle Tennessee may forward specimens either to West Tennessee or East Tennessee pathologists whichever they choose. The list is attached hereto.

This service is limited to the examination of specimens from medically indigent patients.

1. Containers for sending specimens may be obtained on request from: Division of Laboratories, Tennessee Department of Public Health, Cordell Hull Building, Nashville 3, Tennessee.
2. Only biopsy specimens will be examined. Specimens from the breast are an exception. No other post-operative specimens will be examined.
3. Place the biopsy specimen in the fluid in the container. *Do not pour out the fluid.*
4. You will find two copies of Form No. 570 in the container. Fill out completely both copies of the form and sign them. The pathologists have been requested not to accept specimens when the form is not completely filled out in duplicate and signed.
5. Place the completed forms around the inner container.
6. Make sure that the lids are on tight.
7. Address the yellow mailing label to the pathologist of your choice, place on the label your return address and attach the label to the outer container and mail.
8. *Do not mail the specimens to the State Laboratory.*

If we can be of assistance, please let us know.

### PATHOLOGISTS PARTICIPATING IN THE BIOPSY SERVICE FOR THE EARLY DIAGNOSIS OF CANCER

- T. C. Moss, M.D., 1203 Eastmoreland Avenue, Memphis, Tennessee
- Douglas H. Sprunt, M.D., Institute of Pathology, University of Tennessee, Memphis, Tennessee
- William W. Tribby, M.D., Methodist Hospital, Memphis, Tennessee
- William W. Hurteau, M.D., St. Joseph Hospital, Memphis, Tennessee
- Chester K. Jones, M.D., Jackson-Madison County General Hospital, Jackson, Tennessee
- William Harrison, M.D., Holston Valley Community Hospital, Kingsport, Tennessee
- John W. Adams, Jr., M.D., Erlanger Hospital, Chattanooga, Tennessee
- George S. Mahon, M.D., St. Mary's Hospital, Knoxville, Tennessee
- Ralph H. Monger, M.D., 605 Medical Arts Building, Knoxville, Tennessee
- R. J. Leffler, M.D., East Tennessee Baptist Hospital, Knoxville, Tennessee
- T. S. Wedde, M.D., Memorial Hospital, Johnson City, Tennessee

## **Southeastern Obstetrics and Gynecology Society**

The Southeastern Obstetrics and Gynecology Society representing ten southern states held its first annual meeting September 16-17 at the University of Tennessee Institute of Pathology in Memphis. The program included round table discussions on current problems in the medical specialty. The University of Tennessee College of Medicine acted as host to the group. Drs. John Q. Adams, Albert Hand, David Carroll, Phil Schreir and Frank L. Roberts took part in the meeting.

## **Foundation Loan Is Announced for Doctors**

A plan to make unsecured ten-year loans to physicians seeking to establish practices was announced recently by the Sears-Roebuck Foundation. The loans will range up to \$25,000 each.

The money will come from funds set up by the Foundation. They will go to physicians who want to establish practices but are unable to get full local financing. The loans are primarily intended for small or medium sized towns, growing suburbs or rural communities.

The plan provides—"Payments of \$12 a month per \$1,000 borrowed, without interest, are due after three years and must continue until repayment is complete.

"Recipients also must pledge themselves to make a \$240 tax-free contribution to the Sears-Roebuck Foundation for each \$1,000 borrowed."

Tennessee applicants should write to Sears-Roebuck Board, 675 Ponce de Leon Avenue, Atlanta, Georgia.

## **Hospital Dedicated**

Dedication and opening for patients of the new, million-dollar Morristown-Hamblen Hospital was held on August 16 and 18. The 71-bed, four-story building is as modern as any in the country. The facility was formerly dedicated by Dr. R. H. Hutcheson, Commissioner of Public Health for Tennessee. The chief of staff is Dr. Jack Zimmermann of Morristown.

## **Vanderbilt University School of Medicine**

Through a grant from the National Vitamin Foundation, a Symposium on The Role

of Some of the Newer Vitamins in Human Metabolism and Nutrition will be held October 20 and 21. The program is as follows:

Dr. Paul Gyorgy, University of Pennsylvania, "The History of Vitamin B<sub>12</sub>."

Dr. James F. Rinehart and Dr. Louis Greenberg, University of California School of Medicine, "Vitamin B<sub>6</sub> Deficiency in the Rhesus Monkey with Particular Reference to the Occurrence of Arteriosclerotic Lesions."

Dr. Maurice Victor and Dr. Raymond Adams, Massachusetts General Hospital and Harvard University Medical School, "Experimental Neuropathology of Vitamin B<sub>12</sub> Deficiency."

Dr. David Coursin, St. Joseph's Hospital, Lancaster, Penn., "Pyridoxine Deficiency and Convulsions in Infancy."

Dr. E. W. McHenry, University of Toronto, "Some Metabolic Effects of Pyridoxine in vivo."

Dr. M. Wachstein, St. Catherine Hospital, Brooklyn, "Evidence for Abnormal Vitamin B<sub>12</sub> Metabolism in Pregnancy and Various Disease States."

Dr. Richard Vilter, University of Cincinnati, "The Metabolism of Vitamin B<sub>12</sub> in Human Beings."

Dr. Paul L. Day and Dr. James Dinning, University of Arkansas, "Some Interrelationships of Vitamin B<sub>12</sub> and Vitamin E."

Dr. Philip L. Harris, Distillation Products Industries, and Dr. Karl Mason, University of Rochester, "Tocopheryl Hydroquinone and Muscle Dystrophy."

Dr. M. K. Horwitt, Dr. C. C. Harvey, Dr. G. D. Duncan, and Dr. W. C. Wilson, Elgin State Hospital, "Effects of Limited Tocopherol Intake in Human Males."

Dr. William Bean, University of Iowa, "Pantothenic Acid Deficiency Induced in Human Adults."

## **University of Tennessee College of Medicine**

Dr. Louis F. Rittlemeier, Jr., Instructor in the Division of Preventive Medicine and assistant director of the General Practice Department, will become assistant professor of preventive medicine in charge of general practice at the University of Mississippi School of Medicine.

## Hill-Burton Hospital Construction

The Division of Hospital Facilities, FSA, reports that as of August 31, 1955, the status of all Hill-Burton construction in Tennessee is as follows:

Approved, but not yet under construction: Four projects at a total cost of \$1,920,000 including \$988,000 federal contribution and designed to supply 199 additional beds.

Under Construction: Thirteen projects at a total cost of \$20,898,758, including federal contribution of \$5,728,685 and designed to supply 946 additional beds.

Completed and in Operation: Fifty-five projects at a total cost of \$40,249,256, including federal contribution of \$16,710,583 and supplying 2,473 additional beds.

## PERSONAL NEWS

**Dr. Norman Propper**, formerly of New Orleans, has announced the opening of his office in LaFollette where he will specialize in obstetrics and gynecology.

**Dr. T. Gilbert Eblen** has announced the construction of a new office building and Clinic in Knoxville.

**Dr. J. E. Phillips**, McMinnville, announces the opening of his office for the practice of medicine and surgery.

**Dr. R. B. T. Sweany**, Nashville, has announced his resignation as Superintendent of the Davidson County Hospital.

**Drs. Bruce E. Galbraith and Claude C. Snoddy** have announced the construction of a Clinic and office building in Tullahoma.

**Dr. Marcus J. Stewart**, Memphis, has left on an assignment for six weeks to evaluate United States Army Hospitals in Europe.

**Dr. Vincent M. Small**, Gallatin, Director of the Sumner County Health Department, has left to take a course in postgraduate training in Public Health in New York. He has been replaced by **Dr. Jo Anne Quillian**.

**Dr. J. A. Bollinger**, Morristown, will be associated with **Dr. Luke Nabers**. He will specialize in general surgery.

**Dr. John Clariday**, Carthage, moved to Dallas, Texas, on September 1.

**Dr. James Callis**, Crossville, has announced his association with **Drs. Ervin and Ivey**.

**Dr. Max E. Painter**, Gallatin, has announced the opening of an office on North Water Avenue for the general practice of medicine and obstetrics.

**Dr. W. J. Sugg**, Dickson, was recently honored for serving as a general medical practitioner in

the area for fifty-eight years.

**Dr. I. H. Jones**, Paris, has been elected Chief of Staff of the Henry County General Hospital.

**Dr. Oscar B. Murray**, Chattanooga, has submitted his resignation as President-Elect of the Chattanooga-Hamilton County Medical Society. **Dr. Guy Francis** has been named President-Elect.

**Dr. H. H. Hyatt** has been elected Chief of Staff of the newly built Copper Basin General Hospital in Copper Hill.

**Dr. Charles F. Webb**, Jackson, was host to approximately 100 physicians and surgeons from West Tennessee recently at an annual outing and barbecue at Quinlac.

**Dr. Thomas Holder**, Maryville, has announced the opening of his office for the general practice of medicine.

**Dr. William M. Davis**, Athens, has announced that he will start the practice of medicine in Decatur and Meigs County.

**Dr. Oliver K. Agee and Dr. K. A. Bryant**, Maryville, have been awarded certificates of membership in the American Academy of General Practice.

**Dr. Ben Hall**, Jonesboro, was a recent speaker before the Jonesboro Civitan Club.

**Dr. Edwin E. Gray**, Tullahoma, has announced the opening of his office for the practice of medicine at the Queen City Infirmary.

**Dr. Robert W. Newman**, Knoxville, recently spoke before the Knoxville Rotary Club.

**Dr. Lois M. Kennedy, Dr. J. W. Tenpenny and Dr. Charles K. Rath**, all of Murfreesboro, recently participated in the Blood Collection Program sponsored by the American Red Cross.

**Dr. Phillip H. Livingston**, Chattanooga, recently spoke to the College Hill Courts Health Club.

**Dr. Charles Zirkle**, Knoxville, recently addressed the Knoxville County Home Demonstration Club.

**Dr. Sam L. Raines**, Memphis, has been named the leader of the medical division of the 1956 Community Chest Drive.

**Dr. David McCallie**, Chattanooga, spoke before the Chattanooga Engineers Club on "The Human Heart."

**Dr. William F. Meacham**, Nashville, was the guest speaker at the Memphis-Shelby County Medical Society in September.

**Dr. Hersehel A. Graves, Jr.**, has been associated with **Dr. James C. Gardner** in the practice of general surgery in Nashville.

**Dr. M. Charles McMurray** has joined **Dr. C. S. McMurray** in the practice of surgery in Nashville.

**Dr. Richard L. Hobart, Jr., and Dr. Frank Landon** have announced their association with **Doctors R. B. Wood and Dan R. Thomas** of Knoxville for the practice of internal medicine and cardiology respectively.

**Dr. William F. Sheridan, Jr.**, announced the opening of his office for the practice of internal medicine in Nashville.

**Dr. Fred D. Ownby** has opened his office for the practice of internal medicine in Nashville.



**Dr. W. N. Cook**, Columbia; **Dr. J. L. Fugua**, Nashville; **Dr. Arch Y. Smith III**, Franklin; **Dr. William J. Thompson**, Chattanooga; **Dr. Adolphus Bray**, Franklin; and **Dr. Price H. Duff**, Nashville, visited Eli Lilly Company at Indianapolis, Indiana, September 20-22, for a tour of the research laboratories and production facilities. They represented the Andrew Jackson Academy of General Practice.

## BOOK REVIEW

**New and Nonofficial Remedies, 1955. Philadelphia: J. B. Lippincott Co., 1955. Price, \$3.35.**

Annually the reviewer can only reiterate that this compilation of remedies accepted by The Council on Pharmacy and Chemistry of the American Medical Association offers the only valid guide to the use of new drugs. The doctor who wishes to play safe in his choice of drugs, to know what he is using and why, will annually spend this little money for a most valuable reference book.

R. H. K.

**The Halogenated Aliphatic, Olefinic, Cyclic, Aromatic, and Aliphatic-Aromatic Hydrocarbons Including the Halogenated Insecticides, Their Toxicity and Potential Dangers. By W. F. von Oettingen, M.D. National Institutes of Health, 450 pages. U. S. Department of Health, Education and Welfare, Public Health Service publications No. 414.**

This book presents a thorough review of the toxicological literature available on the halogenated hydrocarbons used in our daily life, as well as those of medical and industrial importance. It includes analytical procedures for determination of the individual compound, as well as the toxicity, permissible level for exposure, and suggested treatment for individuals affected through contact with the material.

The composition and indexing of this volume lends to its use as a reference book and the author is to be congratulated for bringing together such a large amount of information in such a logical and concise manner.

It could be expected that the information presented should help to reduce cases of poisoning, but also it should facilitate diagnosis of poisoning by these compounds and stimulate clinical and laboratory research in this area.

FRANK R. BLOOD, Ph.D.

**Communicable Diseases. By Franklin H. Top, M.D., Professor and Head, Department of Hygiene and Preventive Medicine, and Director, University Department of Health, State University of Iowa. 1208 pages, 109 Text illustrations and 15 color plates. 3rd Edition. St. Louis: The C. V. Mosby Company, 1955. Price, \$18.50.** This book admirably covers the field of com-

municable diseases. It is an ambitious work which successfully makes an effort to devote some space to every transmissible disease regardless of the portal of entry or the transmitting vector. For example, it covers all the usual childhood diseases (with some excellent color plates) and in addition space is devoted to hookworm disease, malaria, the rickettsiae, syphilis, tetanus and a host of others. By reason of its very completeness of coverage the data included must be and is concise and brief.

There are two parts of the book which are particularly valuable. In the first place the description of each disease is very well supported by an up-to-date bibliography. This is of great importance because of the necessary briefness of coverage. In the second place the first 272 pages are devoted to a general and in parts quite specific discussion of the principles of immunity, host resistance, epidemiology, preventive methods and the use of antibiotics and chemotherapy.

Doctor Top has called on authorities in each disease and the book is a reflection of his good judgment.

F. TREMAINE BILLINGS, JR., M.D.

**Handbook of Pediatrics. By Henry K. Silver, M.D., Yale University School of Medicine; C. Henry Kempe, M.D., and Henry B. Bruyn, M.D., University of California School of Medicine, and Stanford University Medical School. 548 pages. Los Altos, California: Lange Medical Publications, 1955. Price, \$3.00.**

While this small volume cannot be recommended as a textbook, it certainly is an amazing compilation of facts and figures pertaining to every phase of pediatrics. It has an attractive format, is well indexed and it will fit easily into a house officer's pocket or a practitioner's diagnostic bag. It is carefully edited by three young men whose interests and training has been broad and it should appeal particularly to medical students, interns, residents and young practitioners who are "boning" for their Board examinations.

AMOS CHRISTIE, M.D.

**Ciba Foundation Colloquia on Ageing—General Aspects. Edited by G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch., and Margaret P. Cameron, M.A., A.B.L.S. Assisted by Joan Etherington. Volume 1. 255 pages, illustrated. Boston: Little, Brown and Company, 1955. Price, \$6.75.**

The Ciba Foundation is to be congratulated on this the first volume of a Colloquia on Ageing. The foundation, supported by the Swiss chemical and pharmaceutical firm, sponsored this meeting attended by renowned authorities in the field of Gerontology. This, the first meeting, took place in London.

This book is a collection not only of the formal presentations, but of very stimulating informal discussions which followed each paper.

All fields of ageing are discussed and probed. The bones, elastic tissue, vascular tree, reproduc-

tive systems, pituitary-adrenal axis, and nervous systems are all reviewed. There is an attempt to correlate all the recent and the past animal experimentations in the view of clinical evaluations of elderly persons. Basic sciences serve to give springboards to many discussions.

The clinician can derive no immediate application in the care of his elderly patients from this book. It is interesting, however, to study the thoughts in the field of Geriatrics, and to observe the mass of material accumulated by which future progress can be made.

IRVIN B. ESKIND, M.D.

## ANNOUNCEMENTS

### Meetings of the American College of Surgeons

The medical profession at large is invited to attend any of six sectional meetings of the American College of Surgeons to be held in the cities throughout the United States and Canada during 1956. Meeting cities are JACKSONVILLE, FLA., January 16-18; PHILADELPHIA, PA., February 13-16; MILWAUKEE, WIS., February 27-29; COLORADO SPRINGS, COLO., March 5-7; LITTLE ROCK, ARK., March 12-13; EDMONTON, ALBERTA, April 23-25.

These meetings, like the five-day Annual Clinical Congress, are designed for the purpose of disseminating information about new methods and therapies. In these programs the College draws on

surgeons of outstanding ability, acting as teachers, to focus attention on problems encountered in day-to-day practice. Panels, symposia, papers and medical motion pictures of greatest value to doctors practicing in the area are presented. What the surgeons want, and whom they want to hear determines the programs, for these meetings are planned by Local Committees and aided by the College. Attendance at these Sectional Meetings grows each year, an indication of the modern surgeon's desire to keep informed. Further information may be obtained from Dr. H. Prather Saunders, Associate Director, American College of Surgeons, 40 East Erie Street, Chicago 11, Ill.

### American Board of Obstetrics and Gynecology

Applications for certification for the 1956 Part I Examinations are now being accepted. Candidates making application or requesting the reopening of an application must do so before October 1, 1955. Applications are to be accompanied by a list of hospital admissions as outlined in the current Bulletin of the Board.

The next scheduled examination (Part I), written examination and review of case histories, for all candidates will be held in various cities of the United States, Canada, and military centers outside the continental United States on Friday, February 3, 1956.

Current Bulletins are now available and may be obtained by writing to Robert L. Faulkner, M.D., Secretary, American Board of Obstetrics and Gynecology, 2105 Adelbert Road, Cleveland 6, Ohio.

## PLACEMENT SERVICE

*The placement service of The Tennessee State Medical Association is designed to assist doctors and communities to get together. Further information and contacts on both physicians and communities are available from the Public Service Department, 322 Doctors Building, Nashville 3, Tennessee.*

### Locations Wanted

A 25 year old, Protestant, married, graduate University of Tennessee. Desires General Practice with minor surgery in small town near Knoxville. Will consider others. Available July 1, 1956. LW-167

A 33 year old, married physician, Hebrew, graduate University of Maryland, Diplomate American Board of Dermatology & Syphilology. Priority IV. Available immediately. LW-168

A 33 year old, married physician, Protestant, graduate Northwestern University, priority IV, Desires Internal medicine, clinic, assistant or associate. Available any time. LW-169

A 31 year old, married physician, Roman Catholic, graduate Georgetown University School of Medicine. Board eligible American Board of Orthopedics. Draft exempt. Desires clinic, assistant or associate. Available October 1. LW-170

A 31 year old, married physician, Episcopalian, graduate University of Pennsylvania. Present practice limited to hospital patients. Desires to enter private practice. Specialty Internal Medicine. Available now. LW-171

A 44 year old, married physician, Jewish, graduate University of Illinois, Board certificate held in Ophthalmology. Priority 4F. Desires associate or Solo. Available immediately. LW-176

A 35 year old, married physician, Protestant, graduate Yale University. Priority 4. 20 months residency in Internal medicine. Six years practice of Internal medicine. Available 60 days following notice. LW-184

A 29 year old married physician, Protestant. Graduate Duke University, priority IV. Two years straight Pediatrics completed as of May, 1956. Available May, 1956. LW-187

A 45 year old married physician, Protestant, graduate Columbia (P & S) New York City. Certified American Board of Urology. Desires clinic, assistant or associate. LW-188

A married physician, Protestant, graduate University of Arkansas. Board eligible in psychiatry, but interested in returning to general practice. Draft exempt. Available now. LW-190

A 30 year old married physician, Protestant, graduate Tulane, General Surgery training 3

years. Entering practice first time. Priority IV. Desires community 15,000 up. Clinic, assistant or associate. Available September 1, 1955. LW-194

A 31 year old married physician, Protestant, graduate Medical College of Virginia. Eligible for American Board of Internal Medicine. Priority IV. Prefers clinic, will consider assistant or associate. Desires East Tennessee. Available January 1, 1956. LW-197

A 39 year old, married physician, Protestant. Graduate University of Tennessee. Presently in U.S. Navy. Desires general practice in community 2 to 5 thousand. Available February 1, 1956. LW-198

A 37 year old, married physician, Protestant. Graduate University of Tennessee. At present in U.S. Army Medical Corps. Desires general practice in community 2,000 and above. Would consider clinic, assistant or associate. Available March, 1956. LW-199

A 30 year old, married physician, Protestant. Graduate University of Illinois. Internal Medicine Residency completed June 30, 1955. Priority IV. Now taking a residency in Gastroenterology until June 30, 1956. Desires community 20,000 to 25,000 in Middle or West Tennessee. Available July 1, 1956. LW-200

### Physician Wanted

Excellent Opportunity: Physician to take over general practice, with surgery if desired, in town of 4,500 population. Located northwest Tennessee. Leaving for residency. PW-61

Town of 4-5 thousand population, located in East Tennessee, desires general practitioner. Community cooperation promised in securing house, and will re-do building to suit physician for office space. PW-64

Wanted: An associate, in general practice in clinic with two other physicians. Middle Tennessee. Will guarantee a generous income from the start. Do not need to buy any equipment. PW-65

Small town in West Tennessee desires general practitioner. No other physician in community. All efforts will be made to cooperate with physician in setting up his practice. PW-67

Town in East Tennessee with trade area of 10,000-12,000. Desires general practitioner. One other physician in town. 16 bed hospital in town. Adequate office equipment is already available. PW-68

East Tennessee community desires general practitioner. Population of town 833, of trade area 10,000. One other physician in community with a limited practice. Plans are being made to build a clinic in the near future. Considerable medical equipment has been purchased and is in storage. PW-69

Young man wanted for general practice in East Tennessee City. Salary. PW-70



# TENNESSEE STATE MEDICAL ASSOCIATION COMMITTEES, 1955

## STANDING COMMITTEES

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# Journal of the Tennessee State Medical Association

OWNED AND PUBLISHED BY THE ASSOCIATION

Volume 48

NOVEMBER, 1955

Number 11

## Panel Discussion on Surgery of the Breast\*

*This series of papers summarizes the present-day knowledge of the management of carcinoma of the breast.*

### THE MANAGEMENT OF TUMORS OF THE BREAST

BARTON McSWAIN, M.D.,† Nashville, Tenn.

One should remember that breast tissue extends from the clavicles to the costal margin and from the midline to the midaxillary line.

I believe that, even in a breast tumor which is clinically undoubtedly benign, the woman should be admitted to the hospital and have general anesthesia. The reasons for this belief are: (1) many breast tumors are difficult to find and this difficulty is increased by infiltration of a local anesthetic; (2) there is theoretical, although not proven, danger of dissemination of a cancer by delay between biopsy or excision and radical mastectomy; and (3) there is great psychic trauma to a woman firmly expecting such a tumor to be benign to be told that it is of such a nature that her breast must be removed. If the tumor is unequivocally benign, she may be permitted to enter the hospital one day, be operated upon the next and be discharged the next. If there is the faintest chance that it may be malignant, she should be mentally prepared for radical mastectomy and the hospital stay of a week or ten days.

All fibroadenomas should be excised. Rarely are they difficult to differentiate from cancer but most of them are in young women, they continue to grow slowly and, during pregnancy, they increase in size fairly rapidly.

In my opinion, lesions appearing clinically to be cysts of the breast should not be aspi-

rated because they may not be cysts but cancer and because cancer may be present in the wall or at the site of the cyst. All lesions which clinically seem to be cystic disease but which have the remotest resemblance to cancer should be excised. If the cystic disease is extensive and bilateral, bilateral simple mastectomy should be advised. If a woman has a cyst excised, develops another requiring excision in a matter of a few months, another a few months later and a fourth within another year, bilateral simple mastectomy is economically and prophylactically the procedure of choice and will usually be accepted by the woman. The chance of development of a second cyst in a woman who has had one cyst is approximately 15 per cent. The chance of development of carcinoma in a group of women whose average age is 40 years is about 0.4 per cent and in women in the same age group with cystic disease about 1.2 per cent.

Pain in the breast occurs in many women in whom there is no lesion in which operation is justifiable. In some the pain is relieved when they are assured that they have no cancer by a physician or surgeon in whom they have confidence and in others, although their discomfort is not relieved by reassurance, their pain becomes tolerable. In all such patients, especially those with large breasts, properly fitted and properly supporting brassieres may diminish or abolish the discomfort. If these two measures fail, small amounts of testosterone may help and if this fails, progesterone may be of benefit. I believe that no woman with breast disease should be given estrogenic hormone because of its experimentally proven carci-

\*Presented before the Meeting of the Tennessee Chapter of the American College of Surgeons, April 11, 1955, Chattanooga, Tenn.

†From the Department of Surgery, Vanderbilt University School of Medicine, Nashville, Tenn.

nogenic action. In only one woman have I ever had to do bilateral simple mastectomy for pain only.

In a patient with discharge from the ducts of the nipple and a palpable mass, the proper procedure is excision of the mass. In most of them duct papilloma or cystic disease of the breast will be present. In women with such discharge without a mass which is palpable, or visible on transillumination the management is difficult. The safest but, of course, the most mutilating procedure is simple mastectomy. If the segment of breast from which the discharge comes can be located, that area may be excised and perhaps the cause of the discharge thus be found and eradicated. The danger in following such patients by frequent examinations is definite but slight. This statement

is borne out by the fact that only about 5 per cent of women with breast cancer have discharge and that only about 1 out of those 5 have discharge without a palpable mass.

It is my opinion, and that of the majority of surgeons in this country, that properly performed radical mastectomy is still the best treatment of carcinoma of the breast.

The most common sarcoma of the breast is fibrosarcoma and probably only 1 per cent of breast malignancy is sarcoma. Since it rarely, if ever, metastasize to the axillary nodes, it may be that simple mastectomy with removal of the pectoral sheath is adequate treatment. However, in the only two patients with sarcoma whom I have had, I removed the pectoral muscles and the axillary contents too.

## CLINICAL COURSE OF CANCER OF THE BREAST

BENJAMIN F. BYRD, JR., M.D.,\* Nashville, Tenn.

Any dissertation on the natural history of breast cancer should open with some excuse for the presentation. There is no doubt that in many instances operations have been done which, through a lack of contemplation were not fitted to the needs of the patient. In some instances the cancer had extended beyond benefit by surgical method of attack; in others more extensive surgery was done than the patient actually required for the optimal surgical result. A little consideration, then, of the fundamentals of the problem is in order before passing into the realm of treatment.

This disorder is essentially a disease of the advancing decades of life, and is the most common cancer of women 40 years of age or older. There have been only two cases of breast cancer in women under 25 years of age in over 500 cases with such malignancy seen at the Vanderbilt University Hospital. It is rather amazing that Levin<sup>1</sup> has reported an over-all population survey in upper New York State showing there were 5 women living who had breast cancer for every death due to this malignancy during 1942. The relative incidence of the disease increases steadily during every decade

through age 90. The incidence as to age is the same for men as for women; however, only 1 per cent of breast cancers occur in the male.

Sarcoma of the breast is a relatively rare condition and occurs in less than 2 per cent of all breast malignancies arising principally from pre-existing adenofibromas. The majority of breast sarcomas occur during the fifth decade of life.

Carcinoma of the breast arises principally from the duct epithelium, and in only 5 per cent of the cases originates from acinar epithelium. The predominant microscopic picture is that of relatively disorderly growth with some tumors showing a tendency to adenoid formation. The important microscopic characteristic is the relative degree of differentiation of the tumor. The better differentiated tumors showing few mitoses progress with less rapidity through the course I shall outline to you in a moment. Those poorly differentiated tumors showing many mitotic figures are given to rapid local extension and early metastasis. The local spread of breast cancer is a matter of considerable variability. The so-called inflammatory carcinoma is not a microscopic entity, but is simply a rapidly progressing invasive carcinoma with surrounding edema and

\*From the Department of Surgery, Vanderbilt University School of Medicine, Nashville, Tenn.



inflammatory reaction as evidence of its growth. This type of reaction may produce a tumor enlarging in a period of four weeks from a sub-clinical stage to a mass several inches in diameter. Fortunately, it is rare. The slower advancing malignancies usually extend by digitation into the breast parenchyma and by involving the suspensory ligaments of the breast produce dimpling of the skin and fixation to the skin. On the posterior surface of the breast the pectoral fascia furnishes a temporary barrier to the tumor spread. Infiltration of this fascia results in fixation of the tumor to the chest wall. In rare instances the tumor may actually invade the axilla by direct extension. With the slower growing tumors this progression may take years, and it is not uncommon for the untreated breast cancer to go for five years from diagnosis to a fatal terminus. We have reported tumors known to be present for four years with skin invasion<sup>2</sup> where no axillary metastasis could be found after mastectomy.

The phenomenon of metastasis may occur by either of two routes in breast cancer: blood or lymph borne. As a rule blood borne metastases are rare in the early stages of the disease, and the principal spread is by lymph channels. When blood borne spread does occur it is usually to the lungs and bones, and of these predominantly the pelvis vertebrae, and femora. In a series of autopsy cases 60 per cent showed lung and 44 per cent bone involvement in women who died of breast carcinoma. The lymph borne metastasis are an entirely different proposition. Spread may be early and extensive and may go to one or all of several locations. The site of initial lymph node metastasis will usually depend on the location of the tumor in the breast itself, since the lymphatic drainage of the inner and outer hemispheres vary, and the drainage of the upper and lower hemispheres may be different. The majority, or about 54 per cent of cancers, occur in the outer two quadrants of the breast, and since the carcinomas arising around and under the nipple drain principally to the axilla, some 75 per cent of carcinomas of the breast spread

initially by the axillary route. It is unfortunately true that about 60 per cent of the women coming to examination with breast cancer have axillary metastases at the time of their first visit. The next route of spread to consider is to the supraclavicular nodes. These constitute the secondary nodes of involvement for axillary spread, but also may be the site of primary nodal metastasis from the upper hemispheres in the area above the areola. Because of one fact that this is a rather unusual course for initial metastasis, supraclavicular involvement must be considered a secondary spread until proven otherwise. The third route of spread is by extension through the pectoral fascia and along the perforating branches of the internal mammary artery. By this path spread may also take place along the lymphatics of the falciform ligaments of the liver. Such a course is the primary route of extension in some of the tumors occurring in the medial hemisphere of the breast, and is a late spread from tumors in other quadrants associated with lymph metastasis by other routes.

The clinical manifestations of breast cancer are then the result of these varied factors that I have enumerated. The spread and rate of local growth may be directly affected by a whole host of circumstances. Whether age plays a part is debatable, but in general, the elderly patient seems to have the more slowly progressive and late metastasizing types of cancer, although with any given malignancy, this may vary.<sup>1</sup>

It is on this background that we must base our rationale of therapy for breast cancer at whatever stage that therapy must be undertaken.

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## SURGERY FOR CARCINOMA OF THE BREAST

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In the search for the solution of the problem of cancer the physician and the research investigator have explored many fields. The diagnosis of cancer depends upon the careful evaluation of the historical and physical findings and upon the study of the pathologic specimen removed for study. At the present time, we do not have enough knowledge of the pathologic processes of cancer to intelligently treat the disease. Until such knowledge is available, surgery, X-ray, and hormones will be used to reduce the morbidity in our patients.

Prior to 1894, there was no standardized operation for cancer of the breast. In that year, William S. Halsted<sup>2</sup> reported his operation for cancer of the breast, and since then there have been few changes in his operative technic. Any operation for cancer of the breast is incomplete which does not remove all the potential lymphatic drainage. In an attempt to widen the field of surgery in cancer of the breast surgeons have removed the lymphatic tissues of the neck and in part of the mediastinum.

In a few patients with breast cancer treated at Vanderbilt University Hospital we have combined the neck and supraclavicular dissection as advocated by Wangenstein<sup>9</sup> and the chest wall dissection as advised by Urban<sup>6</sup> with the primary removal of the clavicle. With the clavicle removed, the subclavicular neurovascular bundle can be better cleansed of all surrounding lymphatic and fatty tissues. From Stibbe's<sup>7</sup> anatomic studies the importance of the parasternal lymph node chain is readily appreciated in carcinoma of the breast. Handley, reported by Urban,<sup>6</sup> in a review of 100 primary operable breast cancers found by biopsy, during the radical operation, that there were metastases to the internal mammary lymph nodes in 60 per cent of those lesions located in the medial half of the breast and in 20 per cent of those located in the outer half of the breast.

The five year survival rate for patients treated by surgical intervention for carcinoma of the breast depends upon the stage of the disease. It is often difficult to determine the stage of the disease because of the failure to diagnose metastasis. In a study of 30 patients with breast cancer in whom the axillary lymph nodes were reported negative by the usual routine methods of examination, Saphir and Amromin<sup>10</sup> found ten patients (33.3 per cent) to have metastatic cancer when the serial technic of examination was applied. Approximately 2 per cent of the patients with breast cancer will have positive mediastinal lymph nodes but negative axillary lymph nodes.

No surgeon can state the exact time that cancer cells leave the primary tumor to spread through the lymphatics to the regional nodes. It would seem therefore that the extended operation has a definite place in the treatment of cancer of the breast in that theoretically we can remove more lymph tissue which drains the breast.

### Indications for the Extended Operation

The extended operation is used most often in Stage II and occasionally Stage III of the disease. In those patients with previous radical operations for breast cancer the appearance of enlarged supraclavicular lymph nodes is considered an indication for the extended procedure. Those patients with primary cancer in the medial quadrants of the breast or under the nipple are also considered candidates for the operation. Those patients with ulceration of the skin over the lesion and with fixation of the tumor to the chest might be considered for the extended procedure. It is well to consider the extended procedure for patients with breast cancer developing during pregnancy or lactation.

### Treatment by Oophorectomy and X-ray Castration

Oophorectomy was first performed for the control of breast cancer by Beatson<sup>1</sup> of Glasgow in 1896. Since that time there have been few reports of oophorectomy for mammary cancer probably due in part to the

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(This paper will appear in full in the *Am. Pract. & Digest of Treat.* In Press.)

contemporaneous development of irradiation castration despite the fact that this is a much slower and less effective method of eliminating ovarian function than is the surgical method. We recommend oophorectomy in those patients with breast cancer developing during pregnancy or lactation. Those patients with bone and soft tissue metastasis will probably be benefited by the operation if the tumor is hormone dependent. The operation is also advised in young women with axillary metastasis, if they already have children and if they understand that no more children can be expected.

#### **Treatment by Adrenalectomy and Oophorectomy**

The value of surgical removal of the gonads and adrenal glands in the treatment of cancer is based on the fact that malignancies arising in hormone dependent tissue may acquire this same property of dependency. In 1953, Huggins and Dao<sup>3</sup> came to the conclusion that adrenalectomy and oophorectomy offer more in the treatment of advanced breast cancer than any other present method now available. They emphasized that most of the papillary adenocarcinomas of the breast regressed after the surgical procedures, but that duct carcinomas and undifferentiated mammary cancers never responded favorably. Adrenalectomy should not be denied to those patients who might be relieved of pain of bone metastasis from breast cancer even though there is no accurate method to permit selection of those who will be benefited by such a procedure.

#### **Treatment by Hypophysectomy**

In 1952, Luft<sup>4</sup> reported on hypophysectomy in nine patients for carcinoma of the breast with far advanced disease. One patient had a remarkable regression of the tumor. He emphasized that hypophysectomy is well tolerated and that reactions similar to those observed in endocrine disorders and malignant hypertension do not occur. It is important that the total gland be removed if the best response is expected. In his latest communication, Luft<sup>5</sup> (1955) reported a total of 37 patients on whom hypophysectomy

had been performed for metastatic breast cancer. Thirteen were alive for a period of 3 to 28 months after the operation. In some patients there was a remarkable disappearance in pain and regression in local and metastatic disease.

#### **Summary**

Whether the extended operation for cancer of the breast will ultimately increase the true survival rate remains to be seen. The mortality rate from the procedure will be greater than with the more conventional radical operations.

There are no reports of a cure of cancer of the breast attributed directly to oophorectomy, adrenalectomy, or hypophysectomy. However, these procedures have merit in that they frequently result in temporary improvement and relief of pain. The latter two procedures should be further evaluated in those patients with widespread metastases.

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## RADIATION THERAPY FOR CARCINOMA OF THE BREAST

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The role of the radiologist in the diagnosis of cancer of the breast is almost limited to the demonstration of metastatic cancer in the lungs or skeletal system. Although considerable work has been done in the field of roentgen demonstration of cancer in the breast by soft tissue technic and by injection of opaque material into the ducts, it does not seem to offer any great advantage over careful physical examination. There is one point which should be stressed regarding the demonstration of metastasis in the skeletal system. Pain may precede demonstrable roentgen ray changes in the skeleton by as long as 12 months. Therefore, inpatients who have known cancer of the breast and have unexplained bone pain, the presence of metastatic cancer should be seriously considered. This may be very important in selecting patients for radical mastectomy. Some surgeons advise biopsy of the suspected bone if there is any doubt. However, in the majority of cases, metastatic cancer in bone can be detected by roentgen examination early. It is most commonly found in the pelvis, spine and ribs and, lastly, long bones.

Probably nowhere in medicine is the role of radiation therapy for cancer more discussed than in carcinoma of the breast. It is very interesting to note the varying opinions by outstanding workers. These opinions vary from radiation alone, as the treatment of choice, to radiation solely reserved for palliation. Recently, in some clinics, there has been a trend toward simple mastectomy, followed by intensive X-ray treatment for stages I and II cancer of the breast (defined below). McWhirter<sup>1</sup> and Garland,<sup>2</sup> in this country, have shown that the results in cases so treated are comparable to, or better than those treated with radical mastectomy. Garland stressed the fact that, in general, the treatment of cancer of the breast is the treatment of cancer outside of the breast and that the handling of the tissue at the time of radical surgery enhances the chances of dissemination. Although I have had no personal experience in this method, the proponents of this form of

therapy give rather convincing evidence of its merits. Certainly, if it proves to be as efficacious as they predict, it will become a popular method of treatment of cancer of the breast.

At the present time the use of preoperative X-ray treatment for cancer of the breast does not appear to be of much value. We do not use it. The important question is when or whether to use radiation following radical mastectomy.

The rational approach to this question appears to me to be in the selection of patients for radical mastectomy. If the criteria for surgery are adhered to as closely as Haagenson<sup>3</sup> and Portmann<sup>4</sup> advise, the question of postoperative radiation is a little more clear cut.

We feel that if a patient has a cancer limited to the outer portion of the breast and no demonstrable cancer is found in the axillary nodes, after radical mastectomy of the Halsted type (or in other words, stage I cancer of the breast), postoperative radiation is of little benefit for improving the 5 year survival rate.

It is in the so-called stage II group (patients in whom a few axillary nodes are found to contain cancer at the time of radical surgery) that the question arises as to the advisability of postoperative radiation. Varying reports as to its value may be found, but we believe it has a definite benefit. We believe that if cancer has spread to the axilla, its chances of having spread to the supraclavicular or internal mammary chain of nodes are good and that the patient should have X-ray treatment to the axilla, supraclavicular area, and parasternal regions. Portmann<sup>5</sup> aptly stated "although the procedure may not cure because cancers of the breast are inherently radioresistant, it will increase the 5 year survival rate approximately 10 to 15 per cent of stage II cases."

So-called stage III and IV cancers of the breast, or patients with lesions which are considered incurable by surgery should all be treated by radiation. It is open to question whether these patients should have pal-

liative surgery when cure is impossible. There is abundant proof that neoplastic cells may be disseminated if cancer of the breast is incised. Actually, it is felt that life may be shortened if radical procedures are done on hopelessly advanced cases. Unfortunately, a large number of cases fall into this group. Therefore, if surgery is inadvisable, the only other means of attack is by irradiation. The method of treatment will vary with the type of lesion. We try to get 3,500 to 4,500 r to the tumor, supraclavicular, axillary and mediastinal nodes. While treatment to this group of advanced cases may be classified as palliative, occasionally striking results are obtained and every effort should be made to give these patients adequate radiation. The patients are made more comfortable, and in a low percentage, a 5 year survival will be obtained.

Distant metastasis other than the adjacent lymph nodes may also be helped by radiation. Radiation is usually useless when metastases are found in the liver or other abdominal viscera and when it is widespread throughout the lung. It is of value in skin metastasis and for local recurrence. One of the greatest uses of radiation is the relief of pain from bone metastasis. The most common sites for bone metastases is in the pelvis, lumbar vertebra and ribs. Pain is relieved in the great majority of cases. Varying degrees of sclerosis may occur following radiation to the involved bone. Often no demonstrable change in the lesion may be seen in the roentgenogram, but the patient may be completely relieved of pain.

The other use of radiation in the management of cancer of the breast is castration.

Castration may be obtained by radiation to the ovaries and we are now giving approximately 1,500 r to each ovary.

In *summary* the following conclusions seem logical:

1. Until more evidence is obtained, the question of simple mastectomy followed by intensive radiation for stage I and II cancer of the breast is debatable and we are not using this method of treatment at the present.

2. It is questionable whether postoperative radiation has much value in stage I cases where no axillary metastasis is found.

3. Postoperative radiation enhances the 5 year survival rate in patients with cancer of the breast with demonstrable involvement of the axillary nodes and should be used.

4. Radiation is the treatment of choice for lesions which are considered incurable by surgery.

5. Radiation is a very valuable agent for the control of distant metastases, particularly for the control of pain from bone metastasis.

6. Radiation is a safe method of castration if castration is advisable.

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## HORMONE THERAPY FOR CARCINOMA OF THE BREAST

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"You are aware that breast cancer is the most frequent malignant tumor occurring in females. About 30 per cent of the women with this disease appearing for initial treatment are inoperable. The majority of the operable patients undergo radical surgical procedures. Of these at the end of five

years, 50 per cent may have recurrence, and at ten years an additional 10 per cent may develop a return of their cancer. It appears, therefore, that about 75 per cent of all women with carcinoma of the breast will at some time require therapy other than definitive surgery or roentgen radiation."<sup>1</sup>

The therapeutic use of hormones has been limited almost exclusively to those individ-

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uals with widely disseminated lesions of bone or soft tissues. Usually every other means of therapy has been tried before the patient finally seeks palliation from the addition or subtraction of one or more hormones. Although these manipulations may temporarily modify the rate of growth of certain cancers and cause marked lessening of pain, it is clear that the malignant nature of the neoplastic process has not been altered or a fatal outcome evaded. Occasionally a gratifying relief of pain will be achieved while metastatic lesions are observed to progress. There is no justification for the use of endocrine therapy in place of surgery or roentgen radiation although castration may be carried out as an adjuvant at the time of initial breast surgery.

Although certain predictions are permissible regarding a relationship between hormones and breast cancer, much of our present knowledge is based on empirical grounds and was acquired from a variety of clinical and laboratory experience.

The pioneer investigations of Loeb<sup>2</sup> demonstrated that in mice having a high incidence of breast cancer, ovariectomy of the young prevented the development of neoplasia. Castration after the age of 6 months had no effect.

Lacassagne<sup>3</sup> induced mammary carcinomas in male mice of certain strains by the administration of estrogen. However, prolonged and excessive doses were required and males were not affected unless the females of the strain exhibited a high incidence of spontaneous breast tumors. Although this experience was confirmed, other studies served to emphasize the importance of genetic factors in the development of murine breast cancer. Nevertheless, it was generally accepted that estrogenic substances could be given in such a way as to increase the incidence of breast tumors in genetically susceptible mice. The experiments of Nathanson<sup>11</sup> showed that the prolonged administration of testosterone caused a significant decrease in the incidence of mammary carcinoma among susceptible female mice.

In 1889, Schinzinger,<sup>4</sup> first advocated oophorectomy in premenopausal women with inoperable cancer of the breast because of the mammary atrophy which fol-

lows loss of ovarian function. In 1896, Beatson<sup>5</sup> described the beneficial effects of castration in two young women with advanced breast cancer. He reported relief of pain and regression of the cancerous growths in these patients. His experience was confirmed by others and this therapy was widely practiced during the decade from 1896 to 1905.<sup>6,7</sup> However, enthusiasm for such palliative therapy declined rather sharply after 1905, and it was not widely used again until 1945 when Adair and associates<sup>7</sup> concluded that castration gave only temporary benefit, lasting two years at best, and was associated with objective improvement in only 15 per cent. It was also found that remarkable improvement followed castration in 8 males with advanced breast cancer. This observation was confirmed by Treves.<sup>8</sup>

Further clinical experience of an indirect nature is provided by the extreme rarity of malignant epithelial tumors in individuals with severe hypopituitarism. Archer<sup>9</sup> found that cancer of the breast has never been reported in association with Simmond's disease.

Synthetic estrogens were first used in patients with advanced mammary cancer by Haddow and associates.<sup>10</sup> The significant palliative effect which they reported in 1944 was not in accord with the conclusions which were based upon the study of mouse cancer. Nathanson<sup>12</sup> reported the therapeutic effect of estrogens in postmenopausal women; in some individuals the healing of ulcerated skin lesions was quite striking. This and other evidence has prompted certain investigators to emphasize the fact that there is no rigid proof that estrogens are carcinogenic in humans.

Treves<sup>1</sup> has recently given a preliminary evaluation of the experience of the Memorial Hospital Breast Clinic. Estrogen therapy (15 mg. diethyl stilbestrol, or its equivalent, daily) produced subjective improvement in 60 per cent and objective benefits in 25 per cent. The best responses were observed in patients who were ten or more years past the menopause. If therapy is to be beneficial, improvement will usually be apparent after three weeks of therapy but a temporary exacerbation of pain does not preclude ultimate remission.

In menstruating or early postmenopausal



women, androgenic steroids, with or without castration, are generally regarded as superior to estrogen therapy. However, in regard to pulmonary metastases, the response of younger women to testosterone seems to be less favorable than the response of older women under estrogen therapy. Early experience suggested that androgens were more effective than estrogens in the treatment of bone lesions but further experience suggests that this difference is not great. Certain patients exhibit notable improvement following the cessation of therapy and some appear to do best on alternating courses of androgen and estrogen. No completely satisfactory explanation for such responses is available.

Sodium and water retention with edema are encountered with both forms of hormone therapy. Hypercalcemia may occur spontaneously with widespread bone metastases but may appear only under therapy, especially during androgen administration. This constitutes the most serious complication of hormone therapy and requires its cessation. The usual doses of androgen (150 to 300 mg. of testosterone propionate per week) will usually produce virilization and certain patients may insist on stopping treatment even though their response has been good otherwise.

It is not possible to predict the response of an individual patient following oophorectomy or hormone therapy. Presumably some cancers are not significantly influenced by alterations in their hormonal milieu and it has been suggested<sup>13</sup> that breast cancers may be classified according to their dependence upon estrogens. Studies of urinary calcium excretion may afford some evidence whether tumor growth is dependent upon or independent of estrogenic hormones. Huggins<sup>14</sup> has tended to adhere to this concept in explaining the improvement which follows bilateral adrenalectomy in certain patients. He has shown that urinary estrogen levels decline sharply after bilateral adrenalectomy but admits that this change may not provide the explanation for a favorable response.

In any event, bilateral adrenalectomy may cause striking temporary palliation in certain individuals. It is generally agreed that oophorectomy should be carried out before

adrenalectomy in younger women and that a remission following castration provides some evidence that adrenalectomy will be beneficial. Similar observations may apply to hypophysectomy although the available data are insufficient to answer this question.

It should be recalled that such procedures as bilateral adrenalectomy and hypophysectomy would not be feasible except for the availability of cortisone replacement therapy. Reasonably large doses of cortisone or hydrocortisone (300 mg. per day) are employed during the immediate post-operative period; this regimen is rapidly modified to provide maintenance therapy (25 to 50 mg. per day) as convalescence progresses. In our limited experience, desoxycortisone therapy is rarely required.

In *summary*, one must be impressed by the paucity of crucial knowledge in this field. Many consider estrogens the villain and that the benefits of castration, androgen therapy, adrenalectomy or hypophysectomy are due to removal or neutralization or estrogenic effects. It is not clear, however, whether estrogens are really to be blamed, since some of the most dramatic relief in mammary carcinomatosis has resulted from massive doses of estrogenic substances. Whether the benefit of adrenalectomy depends upon the removal of the last vestige of estrogenic hormones remains to be seen.

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*This syndrome is to be differentiated from myocardial infarction. The differentiation should be on clinical grounds in which the EKG, either for or against, plays the lesser role.*

## SPONTANEOUS RUPTURE OF THE ESOPHAGUS: A NOT UNCOMMON MEDICAL EMERGENCY

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A man 50 years of age is stricken suddenly at home with severe chest pain. He had been well until an hour before when he became nauseated and began to vomit. As he was retching, he was seized with sudden pain, which was diffuse and difficult to localize, but which seemed to be principally substernal and extended through to the back. The pain continued unremitting and agonizing.

When the family physician arrives a short time later, he recognizes immediately that a medical emergency exists. The patient is writhing in agony, slightly cool, and clammy. The pulse and respiratory rates are only slightly elevated. The blood pressure is not abnormal.

Because of the agonizing character of the pain the physician administers morphine, but the pain is not relieved. Arrangements are made for transfer to the hospital. The doctor suspects that the patient has had a myocardial infarction.

On arrival at the hospital measures are undertaken to treat the patient for myocardial infarction. When a normal electrocardiogram is reported, the physician suspects the initial impression may be erroneous. On re-examination, the patient is found in peripheral circulatory collapse and subcutaneous emphysema is palpable in the neck. Blood transfusion and other measures are instituted to treat the patient for shock. He does not respond. Twelve hours after admission the patient expires. Autopsy reveals a linear rupture on the left posterolateral wall of an apparently normal esophagus. The mediastinum and left pleural space are discolored by action of the acid gastric juices. Fluid and food particles are present in the mediastinum and pleural space.

This story as outlined, with variations, we believe occurs often enough in practice to deserve more notice and better treatment,

for it is a curable disease. In spite of the fact that this entity was described as early as 1724 by Boerhaave,<sup>1</sup> only slightly more than 100 cases have been reported. The fact that we are able to present four cases occurring in one medical community, within a period of two years, attests to the probability that the condition is more common than one would think from the relatively small number of cases reported in the literature. One would suspect, then, that many instances of this disease go unrecognized. It is emphasized that three of the four patients reported here were thought to be suffering from coronary artery disease, a surgical consultation was not even sought, and the true nature of the condition was not suspected until the autopsy was performed. Had there been no post-mortem examination, death certificates in all these cases would have listed myocardial infarction as the cause of death.

### Report of Cases

*Case 1.* This 45 year old upholstery worker was an alcoholic and gave an unreliable history. He denied vomiting prior to onset of his present illness, later said that he had vomited several hours before the onset of his chest pain, and at another time stated that he had vomited after the onset of his chest pain.

At 8 o'clock on the morning of July 16, 1954, the patient had sudden onset of retrosternal pain which radiated to his left chest and to his back. He was seen by his physician and sent to the hospital with the diagnosis of possible coronary occlusion.

Three hours later, at 11 o'clock in the morning, when he was admitted to the Knoxville General Hospital, the patient was restless and perspiring profusely. He complained of agonizing chest pain. The temperature was 100.2 degrees. The pulse was 84, the respirations were 24. Auscultation of the thorax revealed crepitant rales over the left lower chest and subcutaneous emphysema was palpable in the left side of the neck. A postero-anterior roentgenogram of the chest in the erect position revealed a minimal pleural effusion at the left base and mediastinal emphysema.



A preoperative diagnosis of *spontaneous rupture of the esophagus* was made and the patient was prepared for immediate operation.

The left chest was opened through the bed of the subperiosteally resected seventh rib and on entering the pleural space a large quantity of acid smelling, brownish fluid was encountered and aspirated. The mediastinal pleura was seen to be black in color, tense, and distended. The mediastinum was opened widely from the level of the diaphragm to the thoracic inlet. This resulted in the escape of a large quantity of brownish fluid containing food particles. The esophagus was delivered and a 3 cm. longitudinal rupture was located in the left posterolateral wall just above the gastric cardia. The mucosal edges pouted out through the esophageal rent and gastric contents continued to escape from the opening. A gastric tube was passed by the anesthetist and threaded into the stomach by the operator. The rent in the esophagus was closed over the tube in two layers using interrupted No. 000 silk on atraumatic needles. The pleural space was irrigated with copious quantities of normal saline solution; 200,000 units of penicillin were injected with a needle into the mediastinal tissues about the esophagus; 40,000 units of penicillin and one gram of streptomycin were introduced into the pleural space. Intercostal tube drainage was introduced posterolaterally and the chest was closed. It is to be noted that the patient's condition improved in the operating room after opening of the mediastinum and he left surgery in better condition than he entered. The gastric tube was connected to a constant suction apparatus. The chest tube was connected to simple underwater seal.

During the first two postoperative days the gastric suction was continued. The chest tube drained large amounts of fluid. On the second postoperative day the patient's condition was good. The chest tube and the gastric tube were removed and the patient was started on water by mouth. His progress continued until the sixth postoperative day when he developed delirium tremens and it was only at this time that the patient's family would admit that he was a periodic alcoholic and had been drinking heavily up until the time he had the onset of his present illness. The patient recovered from his delirium tremens after three days treatment with ACTH and sedatives. He was discharged on the tenth postoperative day. At this time he was taking a regular diet without difficulty. He has been followed postoperatively and has returned to work, is refraining from alcohol, and has no difficulty with his swallowing function.

*Case 2.* This 66 year old man had been well until the afternoon of June 4, 1952, when he complained of feeling nauseated. His wife gave him two separate doses of an antacid which caused him to vomit. During or immediately after the vomiting he developed sharp substernal pain which radiated through to the back. The pain

was agonizing and caused him to lie on the bed, rolling from side to side.

One and one-half hours after the onset of the pain he was admitted to the East Tennessee Baptist Hospital complaining of severe pain in his left chest which extended through to the back. The skin was cold and clammy. The blood pressure was 160/100. The pulse was 88, full, and regular. The breath sounds were diminished at the left base and subcutaneous emphysema was palpable in the base of the neck on the left side. The patient was mildly cyanotic. The impression of the admitting physician was that the patient had a myocardial infarction and in addition, the diagnosis of spontaneous pneumothorax was entertained. Morphine was administered intravenously.

He was seen in consultation by an internist, who also noted crepitation over the base of the neck. The electrocardiogram was within normal limits except for left axis deviation. The chest X-ray film revealed subcutaneous emphysema in the neck, but there was no evidence of pneumothorax or hydrothorax.

During the next 12 hours the patient's temperature rose to 107.2 degrees, the respirations to 55 per minute, but the pulse rate did not increase above 90. Deep shock developed and the patient expired at 10:45 a.m. on June 5, 1952, approximately 20 hours after the onset of his present illness.

*Autopsy* revealed a linear rupture through the wall of the esophagus 5 cm. in length, beginning about 2 cm. above the esophagogastric junction. This rupture communicated directly with the left pleural space. The pleura over the left hemithorax and mediastinum was discolored and covered with thin, fibrinous, shaggy material. The left lung was collapsed and there was present approximately 2 liters of acid smelling fluid in the left pleural space which contained food particles. The right pleural cavity contained 800 cc. of similar material.

*Case 3.* This 62 year old man had been nauseated for three days and on September 7, 1952, he vomited. The vomitus was slightly blood tinged and during the episode of vomiting he suddenly developed vise-like, severe, continuous, retrosternal chest pain. With the onset of the pain there was no further nausea or vomiting. The pain extended through to the back and was also felt in the right side of the chest.

Shortly after the onset of the pain he was admitted as an emergency case to St. Mary's Memorial Hospital. Examination revealed a pale, perspiring, acutely ill, white male who appeared to be in agonizing pain. The blood pressure was 160/100. There was cyanosis of the nail beds. The heart rate was 108 and the examining physician noted a crackling noise on auscultation of the upper anterior chest. The patient was treated for coronary occlusion with oxygen. Morphine was given intravenously. A chest film was not

obtained. An electrocardiogram revealed no evidence of myocardial infarction.

The patient gradually became comatose. The respiratory rate increased to 92 per minute and the blood pressure fell to 60/0. His condition further deteriorated and he expired at 11:50 a.m. on September 8, 1952, approximately 12 hours after the onset of his present illness.

**Autopsy.** Examination revealed a longitudinal rupture in the left lateral wall of the esophagus just above the gastric cardia and this rupture communicated with a large abscess in the posterior mediastinum which contained black, acid smelling fluid and food particles. The left pleural space contained no fluid, but on the right side there was approximately 500 cc. of cloudy fluid somewhat similar to that within the mediastinal abscess cavity. In addition, there was the finding of a duodenal ulcer 0.7 cm. in diameter on the lesser curvature at the pylorus.

It should be noted in this patient's past history that he was known to have had a duodenal ulcer of four years duration. He had bled three times and had refused operation.

**Case 4.** This 79 year old woman had enjoyed excellent health until onset of her present illness on December 9, 1954. After having been Christmas shopping all afternoon she developed precordial pain, nausea, and immediately vomited. After she vomited there developed agonizing pain in the left chest which extended through to the back. Her doctor was summoned and administered 100 mg. demoral intravenously without relief of the pain.

She was admitted to the East Tennessee Baptist Hospital at 10 o'clock in the evening still complaining of agonizing pain in the left chest extending into the back. The pain in the back was described as being more severe than the pain anteriorly. Examination revealed an elderly, slightly cyanotic female with rapid shallow respirations and a blood pressure of 190/110. The heart sounds were of good quality. The rate was 112. Auscultation of the thorax was described as revealing normal breath sounds bilaterally, but it is noted that a careful examination of the thorax was not done because of the patient's extreme dyspnea and pain. An electrocardiogram failed to show evidence of a myocardial infarction. A chest X-ray film was not made.

Six hours after admission to the hospital the patient's blood pressure began to fall and she developed a gasping type of respiration. Twelve hours after admission the blood pressure was 70/50 and the temperature had risen from 99 at the time of admission to 105 degrees by rectum. The heart rate was 130. The pulse was weak and thready. Neo-synephrine in 5 mg. doses intramuscularly produced a slight improvement in the blood pressure. The patient expired 19 hours after onset of her present illness.

**Autopsy.** Upon opening the left pleural cavity, there was a gush of air from the incision indicating a tension pneumothorax and the lung was collapsed. Approximately 2 liters of dark brownish liquid material was aspirated and this contained food particles resembling spinach and celery. The pleural surfaces were covered with fibrin and food particles. The right pleural cavity was normal with smooth glistening pleural surfaces. The mediastinum was shifted to the right. The mediastinal tissues were blackened and a large abscess was present which contained brownish fluid and food particles.

There was a longitudinal rent, 5 cm. in length, in the left posterolateral wall of the esophagus. Microscopic sections of the esophagus suggested that there was an ulcer in an area of ectopic gastric mucosa and this may have been partly responsible for the esophageal rupture.

### Discussion

Progress in the treatment of spontaneous rupture of the esophagus in this country is measured by such case reports as that of Walker<sup>2</sup> who made the diagnosis antemortem in 1914, and by the report of successful surgical closure of such a rupture by Olsen and Clagett in 1947. Many excellent reviews have been published,<sup>1,3,6,7</sup> some of which are listed among the references.

Failure to make a correct diagnosis in a case of spontaneous esophageal rupture is usually not attributable to a paucity of characteristic findings, but can most often be ascribed to a lack of familiarity with the syndrome or a failure to keep it in mind in the differential diagnosis of severe chest pain.

A patient presenting prostrating chest pain, subcutaneous emphysema, and hydro-pneumothorax has almost certainly suffered rupture of the esophagus. Indeed, the diagnosis should be suspected before appearance of emphysema and hydrothorax in a patient who has agonizing chest pain following the act of vomiting. The vomiting may have been spontaneous or self-induced and may have followed overindulgence in food, alcohol, both, or neither.

The correct diagnosis is usually arrived at on the basis of the history, physical examination, and chest X-ray film made in the erect position. Confirmation may be obtained by aspirating liquid or solid food material from the pleural space, aspirating methylene blue previously given by mouth, or by giving a swallow of iodized oil and

demonstrating its escape into the mediastinum or pleural space by X-ray films.

If prompt surgical intervention is undertaken in these patients recovery is the rule. Without operation the condition is usually fatal. The longer the delay between the occurrence of the rupture and the establishment of the diagnosis the poorer becomes the outlook.

### Summary

Spontaneous rupture of the normal esophagus would appear from available reports in the literature to be an uncommon disease.

The occurrence of four proven cases in one medical community within the brief space of two years, as herein reported, leads the authors to conclude that it is a not uncommon medical emergency.

It is significant that three of the patients died with a diagnosis of myocardial infarction, surgical consultation was not sought,

and the correct diagnosis was not established until a post-mortem examination was done.

Recognized early and treated promptly by surgical closure this disease is curable. Untreated it is almost always fatal.

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*Successful treatment with a relatively new drug seems to be well documented in this case report.*

## TREATMENT OF HISTOPLASMOSIS WITH MRD-112. Report of a Case

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Disseminated histoplasmosis was regarded as an almost invariably fatal disease up to 1945.<sup>1</sup> Since that time, scattered reports of recoveries have appeared in the literature but no therapeutic agent has gained recognition as consistently effective against generalized infection with *Histoplasma capsulatum*.

The case of histoplasmosis reported here was treated, after diagnosis by positive blood cultures, with MRD 112.† This was done in spite of the expectation, at the time diagnosis was made, that the patient would not survive long enough for a fair trial of its fungicidal qualities.

### Case Report

G. F. H., a 34-year-old colored male, was admitted to the hospital November 12, 1953. His occupation, for several years, had been that of a brick loader in a brick factory. In this work he took the bricks out of the kilns after baking. This was dusty work, but the dust had always been subjected to high temperatures prior to his exposure. He gave a history of severe chills, fever and several right frontal headaches for about eight days prior to admission. There was no history of a recent cold or respiratory infection.

He had been overseas for about a year in the Persian Gulf region in 1944 but had no illness that he remembers. He denied syphilis. Otherwise the past history was noncontributory.

*Physical examination* revealed a well developed and well nourished Negro man who appeared acutely ill with a high fever but was mentally clear. Blood pressure was 130/90. The right nostril was somewhat inflamed. The liver was down four fingerbreadths below the costal margin and the spleen was barely palpable. Both were moderately tender. Otherwise the physical examination was negative. There was no lymphadenopathy.

*Laboratory examinations* showed a negative blood test for syphilis. Blood count on admission showed a Hgb. of 14.6 Gm., a WBC of 7,250 with 17% bands, 42% seg. polys, 33% lymphs., and

8% monocytes. The sedimentation rate was 40 (corrected). There was no sickling tendency. Urinalysis showed specific gravity of 1.013, 1+ albumin, no sugar, and occasional granular casts. The chest X-ray was reported as negative, but the hilar shadows were large, and there appeared to be an exaggeration of the peribronchial markings. X-ray films of the sinuses were negative. Some of the liver function tests were abnormal, as follows: thymol turbidity was 13.9; 40% of the BSP dye was retained at the end of 45 minutes; the albumin-globulin ratio was reversed, total proteins being 8.7 Gm. per 100 cc., with albumin 2.5 and globulin 6.2.

The other liver function tests and many other laboratory tests and diagnostic procedures were negative or normal. They are listed as follows: icterus index, prothrombin time, cholesterol and cholesterol esters, cephalin flocculation, fasting blood glucose, NPN, smears for malaria, agglutination tests for typhoid, brucellosis, tularemia, and OX<sub>19</sub>, cold agglutins, heterophile antibodies stools for ova and parasites, and sputum for acid-fast bacilli. Complement fixation and microscopic agglutination tests for leptospirosis were negative. The patient's serum was negative for complement fixing antibodies of the psittocosis-lymphogranuloma venereum group. L. E. cells were searched for in the peripheral blood and not found. Sternal marrow was reported as normal. X-rays of the skull and the lumbo-sacral spine were negative. Gastrointestinal series and barium enema were negative. I. V. pyelogram was normal. ECG was normal.

Skin tests were performed on Nov. 18, 1953, about 14 days after the onset of illness, with the following results: tuberculin (PPD first strength) negative, histoplasmin 2 plus, blastomycin 1 plus, and coccidioidin negative. A few days later a negative result was obtained with second strength PPD.

In spite of the fact that a definite diagnosis had not been made on this man, he was given 300,000 units of procaine penicillin twice daily from Nov. 13 to 24, (11 days), and oxytetracycline 0.5 Gm. every 6 hours from Nov. 21 to Dec. 9, (18 days). On this date the oxytetracycline was stopped and he was given chloramphenicol 250 mg. every 4 hours, which he received from Dec. 9 to 15, (6 days). In spite of all these antibiotics he continued having a high spiking temperature of 104° F. daily, drenching night sweats each night.

On Dec. 15, the laboratory reported three blood cultures positive for *Histoplasma capsulatum*. The blood had been obtained on Nov. 17 and Nov. 20, (two on the latter date). Sternal marrow culture

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†Beta-diethylaminoethyl fencholate, (Beta-diethylaminoethyl-1 methyl-3 isopropyl cyclopentane Carboxylate HCL). Furnished through the courtesy of Merrill & Co., Cincinnati, Ohio, whose designation for the drug is MRD-112.

taken Dec. 4 was negative for fungi. The complement fixation tests on serum obtained from the patient Dec. 15 were reported as follows: histoplasmosis, positive, 1:128; blastomycosis, positive 1:8; coccidioidomycosis, negative; and the collodion agglutination titer for histoplasmosis on dilution 1 was 1:40.

On Dec. 16, 1953, he was started on daily intravenous injections of 150 mg. of MRD-112 (beta-diethylanimoethyl fencholate). This was continued for 60 days. At the same time that these intravenous injections were begun, he was started on saturated solution of potassium iodide by mouth. This was given 10 drops in a full glass of water three times daily after meals, and increased a drop a dose a day until 100 drops three times daily were taken and then continued at that large dosage. That dosage was reached on March 16, 1954; the potassium iodide was stopped on May 6. While he was on the intravenous injections of MRD-112, liver and kidney function tests were performed at regular intervals.

After the treatment was started on Dec. 16, his temperature continued to reach 104 degrees for about 5 days (he had been spiking this temperature daily since admission). For 10 days it was 101 to 102.4 and then he had 2 weeks of moderate fever (99.4 to 100). However, after that it was normal. By Dec. 24, his blood count showed some anemia (RBC of 3,500,000 with 10.7 Gm. of hemoglobin) but this soon improved with diet and iron. All of his liver function tests have returned to normal. Since the course of treatment a number of blood cultures have been negative for fungi. The spleen and the liver are not palpable now.

An EENT consultation reported no evidence of disease in the mouth, pharynx or larynx. After he had been in the hospital about 2 weeks, before treatment with MRD-112, he complained considerably of marked numbness and pain in his feet and lower half of his legs. His pedal arteries showed good pulsation, reflexes were normal, and X-ray films of the feet were negative. These symptoms were considered to be on the basis of a peripheral neuritis. They have improved but he still has a little numbness of his toes.

On Jan. 5, 1954 (48 days after the first skin test) the reaction to the skin test with histoplasmin was 3+, and on March 2, 1954 it was 4+. The complement fixation test for histoplasmosis on Jan. 28, 1954 was the same as on Dec. 15, 1953 (namely, 1:128) and the collodion agglutination titer was also the same. However, a month later the complement fixation test was 1:16 and the collodion agglutination titer was also not so high (1:20). Serum obtained March 12, 1954, was reported as showing "complement fixation tests negative for histoplasmosis, blastomycosis, and coccidioidomycosis. Collodion agglutination test was negative for histoplasmosis."

In March of 1954, this patient was considered to be arrested as far as the histoplasmosis was concerned. He had been temperature-free and symptom-free (except for some numbness of the

distal portion of his feet) for about three months. However, on March 26, 1954 he developed pain in his right knee, and fever. Soon there was swelling and accumulation of fluid. He became a diagnostic problem. However, a definite diagnosis of tuberculosis of the knee joint was finally made from the following:

(a) In April and May, 1954, four positive culture reports were received from fluid aspirated from the right knee ("positive for acid fast bacilli, typical of tubercle bacilli").

(b) A guinea pig was inoculated on April 15, 1954 with fluid from the right knee and when autopsied tuberculosis was found in the liver, spleen and lymph node.

(c) Tuberculin skin test done June 7, 1954 was 3 plus positive with first strength PPD (skin tests were negative with both first and second strengths in November, 1953).

Fluid from the knee was cultured repeatedly for fungi and was always negative. Also, blood cultures at this time (late March and April) were negative for fungi. There was a series of laboratory reports which were temporarily confusing, namely a rising titer of the complement fixation tests for histoplasmosis (1:8 on March 31, 1:32 on April 14, and 28, and 1:128 on June 3). Our explanation for this was that it was probably due to the second and third skin tests for histoplasmosis. A recent complement fixation test (Nov. 23, 1954) is negative for histoplasmosis and coccidioidomycosis and the collodion agglutination test for histoplasmosis is also negative. A number of urine cultures were negative for tuberculosis. Recent repeated chest X-rays have been negative.

The patient's right knee was operated upon on August 17, 1954 (compression arthrodesis) and he was started on streptomycin and PAS. INH was later used instead of PAS. The pathologic report on tissue from the operation was "granulomatous reaction, compatible with but not diagnostic of tuberculosis." He now appears to be making an uneventful recovery from the tuberculous knee joint.

### Discussion

In order to evaluate the effectiveness of a drug, prognostic criteria are desirable. Thus, any treatment that resulted in cure of a pneumococcal meningitis would be assumed to have effected that cure, since, untreated, pneumococcal meningitis is 100 per cent fatal. When the prognosis is undeterminable, the effectiveness of the treatment is much more difficult to judge. It is with this realization that we are presenting this case and discussing prognosis.

Most textbooks divide histoplasmosis into a primary form and a systemic form. The latter is frequently called disseminated. Some authorities are expressing the idea



that histoplasmosis, like tuberculosis, has primary and reinfection forms. As more and more cases of histoplasmosis are reported, we realize that the assumption that the primary type is always benign and the disseminated form nearly always fatal, is no longer tenable. Some subdivisions of the forms seem to be necessary. Because prognostic criteria in histoplasmosis have not been clarified we shall try to list the various types of infection in the order of our idea of their relative prognostic outlook. The following five tentative groupings are proposed, in order of increasingly poor prognosis:

1. *"Endemic" form.* This is the well known type in which there is an insidious pulmonary infection, and which, upon recovery, shows multiple pulmonary calcifications and a positive histoplasmin skin test. This form is apparently universally benign, although it may be possible that some cases progress, instead of healing, to a generalized form with a more grave prognosis. Dublin, et al.<sup>1</sup> cite a case which might fit this latter description.

2. *Epidemic form.* Reports of an epidemic form of acute pulmonary disease, diagnosed as a new type of pneumonia, ("chicken-coop pneumonia"), and later found to be due to *H. capsulatum* have appeared in the literature.<sup>4</sup> Many of these cases occurred in or near army camps in the endemic area where men had been exposed to underground dust conditions and old houses with rotting oak timbers. Chicken litter has also been implicated. Some of these groups were men who worked on the demolition of old buildings where pigeons had roosted for many years.<sup>5</sup> Apparently this type of infection is severe during the acute phase but does not tend to become disseminated, and the outlook is good.

3. *Primary pulmonary infection.* Here, the lesions may vary from symptom-free isolated, benign pulmonary histoplasmosis to generalized bilateral pulmonary involvement with fatal outcome.<sup>6</sup> In this diverse group of pulmonary cases prognostic accuracy seems extremely difficult in our present understanding of the disease. What the solitary nodular lesions represented before they became quiescent is impossible to say. One may speculate that they may have been

much larger lesions before fibrotic and calcific changes took place. Into this category would also fall the "acute primary pulmonary histoplasmosis," reported by the Memphis group, described by Dr. David Smith as "reinfection histoplasmosis." This condition is characterized usually by fan-shaped exudative lesions in the lungs, usually in the upper third, which occasionally progress to cavitation. Operation has been done on a majority of these patients, with good result. Patients unoperated upon have usually done well too. In general, the size and extent of the lesions and their degree of activity, as evidenced by clinical signs and X-ray appearance, may give a fair index of the prognosis, but even this generalization often fails. Extensive pulmonary lesions have been shown to subside spontaneously.

4. *Skin and mucus membrane involvement.* The gastrointestinal tract, anywhere from mouth to anus, may be the site of ulcerative lesions, either single or multiple.<sup>7</sup> Two cases have been diagnosed as carcinoma of the larynx by biopsy, later to be proven as histoplasmosis. Another case of histoplasmosis of the mouth has recently been reported<sup>12</sup> in which the biopsy report was squamous cell carcinoma. Radical surgery was avoided through fortuitous circumstances and a proper diagnosis made. Skin involvement is not common but does occur. In general, skin and mucus membrane lesions, in the absence of signs of dissemination, do not carry too bad a prognosis. It may be difficult to separate the purely local lesion from the one which is a manifestation of systemic disease, thus complicating the problem.

5. *Disseminated histoplasmosis.* It might be inferred that blood stream infection, as in the case cited above, would imply disseminated histoplasmosis, and it may well do so. However, it is conceivable that early blood stream involvement from an undetermined local focus may precede the "digging in" of the organisms into the reticuloendothelial system by an interval sufficient for the disease at this stage to be amenable to antifungal therapy. In the present case, there was liver and spleen but no lymph node involvement, which would imply some such phase. Thinking along the same line, the liver may have been previously enlarged



due to other causes, and the spleen enlarged nonspecifically, as in the case of some lobar pneumonias. In this case, the attack upon the organism may have been more effective because of the ability to obtain good concentrations of the fungicide where it could be effective. Whether this salutary effect would obtain in a generalized case, with universal involvement, remains to be seen. There are cases of spontaneous recovery in the presence of positive blood culture<sup>9</sup> which may, or may not, have had intrenchment of the infection.

*Comment.* In this case which we have presented, it is impossible to say what was the portal of entry of the infection. One of the initial symptoms was related to the right nares and right frontal sinus region and this is a possible site. The chest film certainly showed a little more than normal prominence of the hilum, and peribronchial infiltration, and subsequent films showed what appeared to be some clearing. This is not very strong evidence, but certainly the lungs cannot be ruled out as the portal of entry, even though the sputum was consistently negative. The gastrointestinal tract showed no evidence of involvement which probably, but not conclusively, rules it out.

Also in this case, the early peripheral neuritic involvement and its persistence, points out the multisystem involvement which may take place in histoplasmosis. The nervous system is not infrequently involved. Shultz<sup>10</sup> showed 10 per cent of such involvement in 120 autopsies. The failure of the treatment to rapidly reduce this localization makes one wonder how well other entrenched involvements would have responded.

Another aspect, as mentioned above, is the reliability of the evidence pointing to liver involvement with *H. capsulatum*. The patient certainly had an enlarged and tender liver and some of the liver function tests were abnormal (BSP, thymol turbidity, and reversal of the albumin-globulin ratio). Also the liver decreased in size on treatment. We do not know what the condition of this man's liver was before he became infected. Although the patient's nutrition and habits apparently were good, these changes could possibly have antedated the infection.

The use of iodides as accessory treatment may seem to some to cloud the issue. Since one of us (R. J. C.) has had considerable success in the treatment of fungal infections with this agent, it did not seem justifiable to withhold any possible aid in this critically ill patient, even though it is not known to be effective in this disease. Possibly, fortuitously, there may have been some synergistic affect between the MRD-112 and the iodides. This, of course, is purely speculation.

There are a number of references in the literature concerning the co-existence of tuberculosis and fungal infections.<sup>11-12</sup> No one has given a satisfactory explanation of this. In our case the evidence points to the fact that he was attacked by the tuberculosis organism after his histoplasmosis infection. The tuberculin skin tests (both first and second strength PPD) were negative in November, 1953, four months before he developed his tuberculous knee joint, and after that the tuberculin skin test was positive. Possibly anergy was involved in the original tuberculin negativity, but this is doubtful.

We believe no discussion of histoplasmosis would be complete without mentioning several points that may help the percentage of positive diagnoses:

First. Cultures should not be discarded before 6 to 8 weeks have elapsed. Many cases are probably missed by not observing this rule.

Second. The diagnosis of histoplasmosis is a diagnosis made from cultures. A biopsy specimen should always be cultured as well as sectioned for microscopic examination, if there is any suspicion of fungal infection. Many have had experience in the difficulty in changing operating room habits, in trying to follow this out.

Third. Although the fungus apparently lives and multiplies in certain dusts, tissue and other specimens should be promptly cultured, as the organism apparently loses its culturable character rapidly in such circumstances.

Another point that should be stressed, and in this I am quoting David Smith: that is, *pulmonary histoplasmosis* of the "reinfection" type, has the same predilection as tuberculosis for the upper portion of the

lungs, and may present an identical appearance, even progressing to cavitation. If this is not borne in mind, cases of histoplasmosis will get "buried" in hospitals for the tuberculous without the true diagnosis being suspected. The skin test is a valuable aid but open to criticism because of the danger of its possible distortion of the results of a subsequent complement fixation test.

#### Summary

A case of histoplasmosis with positive blood culture, skin tests and complement fixation test was treated with a new fungicide. The patient has apparently recovered, and although every effort is made to be critical in our evaluation of the drug, the fact remains that the patient did recover, having had a form of the disease in which recovery is not the rule.

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## STAFF CONFERENCE

Vanderbilt University Hospital  
Neurological Conference\*

DR. BERTRAM SPROFKIN: We are presenting two cases of neurologic disease. The first is a surgical neurological problem and will be presented by Dr. Gray Stahlman.

DR. GRAY STAHLMAN: This patient was admitted on the Neurosurgical Service of this hospital on October 3 of this year with the chief complaint of pain in his legs.

*First Admission:* He had been admitted to this hospital previously on November 30, 1948, because of pain in the left thigh associated with paresthesias going down the lateral aspect of that leg. However, prior to his admission he had some discomfort in his right thigh also. Physical examination at that time was not remarkable except for hypesthesia bilaterally over the lateral aspects of both thighs. X-rays revealed a destructive lesion in the pedicles of the second lumbar vertebra. Lumbar puncture was performed and revealed a partial manometric block with a spinal fluid protein of 82 mgm. per cent. Dr. Pilcher performed a laminectomy and at the operation intradural exploration was carried out but no neoplasm or lesion was seen. Following this the level of the third lumbar interspace was explored extradurally and a reddish mass was found protruding anteriorly particularly on the left side. This was removed and it was found to extend down into the bodies of both L3 and L4. It was curetted out. Postoperatively, the patient did well. He was given 2,800 Roentgen units of X-ray therapy over the lumbar spine and was followed in our Out-Patient Department.

*Second Admission:* He remained essentially symptom free and was able to work and carry out his daily activities until about ten months prior to this admission, when he began to complain of pain particularly down his right thigh with some discomfort on the left. He was seen in our Out-Patient Department where X-rays were taken and again they revealed this destructive process in the pedicles of the third lumbar vertebra which seemed to be somewhat more extensive. He was brought into the hospital for further diagnostic workup.

*Physical Examination:* On physical examination his only findings were vague areas of hypesthesia to pin prick over the anterior-lateral aspect of both thighs. He had no motor weakness. His deep tendon reflexes were brisk and equal bilat-

erally. There was no pathological toe signs. He had had during this illness no sphincter disturbance. Lumbar puncture was performed and it revealed free dynamics with a protein content of 15 mgm. per cent.

*Course in Hospital:* Yesterday afternoon, myelography was carried out and revealed almost a complete block of the column of dye at the level of L3.

DR. CULLY COBB: These are Mr. Jones' X-rays. I think you can all see the pattern of the myelogram where the dye flows around the mound shaped mass which lies along the anterior wall of the spinal canal directly above the third lumbar body. You can see also that there is sclerosis of the third lumbar body. There has been some debate as to whether that is the result of involvement by his tumor or whether the sclerosis is secondary to the X-ray therapy he had several years ago. The confinement of it to this one vertebra is against the latter assumption, although it didn't show in the previous films.

Chordomas arise from remnants of the primitive notocord, which is normally represented in adult human beings only by the cartilaginous intervertebral discs. These chordomas have the appearance of cartilage ranging from imperfect and primitive tissue with spindle shaped cells or large rounded vacuolated cells down to almost perfect cartilage. They are rare. Only about 300 have been reported. They occur all along the spinal axis although predominantly at both ends. From a clinical point of view there are really only two basic patterns—one is the chordoma that occurs at the clivus at the junction of the sphenoid and occipital bones in the floor of the skull and the other is the common type in the sacrum, sacro-coccygeal area, or lower lumbar spine. These lower ones comprise about 60 per cent or possibly a little more and the remainder are located in the floor of the skull. They are histologically benign but usually are incurable because of the fact that the infiltration of bony structures makes complete removal impossible in most cases. On the other hand, local removal often is followed by a rather good temporary result as we see in the case of this man. He has been active and healthy and only now, six years later, has he developed pain enough to require that something else be done. From

\*From the Department of Surgery and the Department of Medicine of Vanderbilt School of Medicine, Nashville, Tenn.



the appearance of this myelogram it is easy to see that by again removing what can be removed without damaging his back, he can in all probability be made functional for another period of probably a number of years. The question of radiation therapy has been brought up. It's generally considered that these tumors are not significantly radiosensitive and the radiologists are not enthusiastic about X-ray therapy as the only measure utilized.

We have here the films from another of our cases of chordomas—the first one that came to mind when we thought of presenting this man—and this is the other type—that is, a tumor arising at the clivus in the floor of the skull. This woman came here in 1949 because of a headache and a progressive third nerve paralysis which had been present for six or eight years and gradually but slowly progressive. In addition to the third nerve paralysis she had developed convulsive seizures. This X-ray film shows two things that made us think she had a meningioma. There is floccular calcification in the left temporal fossa which you can just see in the lateral film and an enlarged sella turcica with atrophy of the dorsum of the sella, which suggested pressure of long standing. When she was operated on there was a large mass, mainly filling the left temporal fossa and having the appearance of cartilage in some areas and of less well organized fusiform and rounded cells in other places, characteristic of the chordomas. After that was removed, she did well for several years but in the past two years has begun to have invasion of the nasopharynx, in the area of the sphenoid bone.

**DR. SPROFKIN:** Our second case is a medical neurological problem and will be presented by Dr. McMurray.

**DR. JOSEPH S. McMURRAY:** This 68 year old white male entered Vanderbilt University Hospital for the first time October 3, 1955, complaining of speech difficulty.

*Present Illness:* His present illness extends back about one year when he noted the insidious onset of difficulty in articulation. This was observed by his friends and led to some embarrassment. He soon learned to speak only when absolutely necessary. His voice became weak and hoarse, and he began to notice difficulty in swallowing, worse with liquids than with solids. About three or

four months later, he began to experience weakness in the upper extremities with difficulty in performing gross and fine movements, particularly such fine finger movements as buttoning his shirt. He had been employed as a boat dock operator and two months ago was forced to quit work because of inability to perform manual tasks. He has also had, during the past four or five months, weakness and fatigue in the lower extremities and nocturnal cramps in the left calf. He denies any emotional lability but describes a definite change in his mood in the direction of depression. He has had considerable insomnia. He has noted loss of appetite and there has been a weight loss of 25 pounds during the past year. He has observed no twitching of the muscles of his arms or legs.

*Family History:* No family history of neuromuscular disease was elicited.

*Physical Examination:* On general physical examination he is normotensive, and the vital signs are all within normal limits. He is a well developed, elderly, somewhat depressed white man who seems to have lost weight recently. Many shimmering fasciculations are visible over the shoulder girdles, arms, and thorax. Examination of the eyes reveals normal extra ocular movements. There is no ptosis. The fundoscopic examination reveals only arteriosclerotic changes. There is no papilledema. His voice is hoarse and weak. He clears his throat frequently and swallows with some effort. There is atrophy of the shoulder girdle musculature and some atrophy of the muscles of the forearm. There is marked atrophy of the intrinsic hand muscles with flattening of the thenar eminence and loss of normal cupping of the palm. The chest is emphysematous and expands rather poorly with a predominance of diaphragmatic breathing. The lungs contain a few coarse rales but are not otherwise remarkable. The heart is not enlarged; the rhythm is regular, and no murmurs are heard. Abdominal and rectal examination are normal. On neurological examination, the cranial nerves are normal with the exception of fibrillation and atrophy of the tongue, the atrophy being most marked on the left. On protrusion the tongue deviates to the left. There are no sensory changes of the cranial nerves or the peripheral nerves. There is weakness of the extensors and flexors of both upper extremities and weakness of the intrinsic muscles of the hand with the atrophy as mentioned. His gait and station are not remarkable except for a suggestion of an equinovarus deformity on the left in walking. All deep reflexes are very hyperactive, and there is an ill-sustained clonus at the left knee. The plantar response is bilaterally abnormal, and there is a bilateral palmar reflex demonstrable.

*Laboratory Studies:* Chest and skull radiographs and an electrocardiogram were within normal limits. Lumbar puncture revealed an opening pressure of 130 mm. of water with a closing pressure of 90 mm. One white blood cell per cubic mm. was seen. Protein content was 42 mgm. per

cent. Urine and blood examinations were normal as were various blood chemistry determinations. The blood serology and spinal fluid serology were negative.

DR. SPROFKIN: We are indebted to the French neurologists of the last century for delineating the three entities which are now considered collectively under the title of amyotrophic lateral sclerosis. These include progressive muscular atrophy, so-called primary lateral sclerosis and progressive bulbar palsy. Charcot first described the entity as we know it today and named it amyotrophic lateral sclerosis. The names of Aran and Duchenne are associated with the condition known as progressive muscular atrophy. They described this as a disorder characterized by widespread muscle wasting and fasciculations with progressive debility leading to death. Where spasticity is prominent and lower motor neurone involvement is not apparent, the disease has been called primary lateral sclerosis. Progressive bulbar palsy is the result of involvement of the motor nuclei of the cranial nerves, particularly the ninth, tenth and twelfth. This process is identical with the changes which occur in the anterior horn cells of the spinal cord in progressive muscular atrophy. Dejerine recognized this relationship and placed the disorder under the more inclusive rubric suggested by Charcot. It should be emphasized at this time that fasciculations in the absence of any other evidence of neurologic disease are not sufficient indication for making a diagnosis of this dread disease.

Amyotrophic lateral sclerosis occurs primarily in the fourth and fifth decades of life, affecting men more than women, and is ultimately fatal after an average course of not more than 3 or 4 years. The pathogenesis of this disorder remains obscure. Therapeutic efforts have gone unrewarded. If one recalls that this is primarily a disorder of the motor system, its differentiation from peripheral neuropathy, combined system disease, syringomyelia, multiple sclerosis, and spinal cord tumor is not difficult. Occasionally a cervical myelogram is necessary to rule out a painless midline protrusion of a cervical intervertebral disc, which may be associated with atrophy in the upper extremities and spasticity in the

lower extremities. A similar picture may be produced by osteoarthritic ridging of the cervical vertebrae occasionally referred to as cervical spondylosis.

Amyotrophic lateral sclerosis remains a relatively rare neurologic syndrome over most of the world with exception of the Mariana Islands in the Pacific. Interesting observations regarding the prevalence of this disease on the island of Guam have appeared previously in the literature but this situation was studied more recently and exhaustively by Kurland and Mulder.<sup>1</sup> The disease was most frequent among the original Chamorro population of this island. The incidence is remarkably high with a calculated rate of 420 cases per 100,000 population as compared with the incidence of 4 per 100,000 population for various North American and European countries. No etiologic agent has been found to explain the unusual distribution of the disease on this island. On Guam and Rota, the prevalence ratio is at least fifty times that of the rest of the world from which reports are available. On the basis of death certificates dating back to 1904, it appears that amyotrophic lateral sclerosis is not a new disease on Guam but at the present time about 4 per cent of all deaths and 8 to 10 per cent of adult deaths on Guam are due to amyotrophic lateral sclerosis.

Most authorities who have written about the subject in recent years indicate that this disorder is non-familial and not hereditary. Kurland and Mulder reviewed the world's literature of the past 100 years and drew on their experience in the Mayo Clinic to demonstrate that a significant proportion of cases, although not the majority, are hereditary.

These new contributions to our knowledge of this distressing malady may auger future advances regarding its pathogenesis and therapy.

DR. COBB: In the cases of Gaum, is any special location of the lesion predominant?

DR. SPROFKIN: It is apparent from the motion picture studies and other data presented by Kurland and Mulder that the disease as they encountered it in the Marianas is classical amyotrophic lateral sclerosis, in no way different from the disease as it occurs elsewhere in the world. Presentations

of rare disorders have a different pedagogic disadvantage in that one may recall vividly this case of amyotrophic lateral sclerosis when he sees a patient with wasting of the intrinsic hand muscles, or he may think of the diagnosis of chordoma when a patient exhibits cranial nerve palsies. It must be remembered that peripheral neuropathy is a much more common cause of wasting of

the hand muscles, and certainly a meningioma or aneurysm is more frequently the tumor which may be etiologically related to cranial nerve compression.

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## CLINICOPATHOLOGIC CONFERENCE

### Kennedy Veterans Administration Hospital

#### Paradoxical Embolism

C. A. Rosenberg, M.D., and J. M. Young, M.D.\*

#### Case Presentation

This 66 year old white male farmer had been studied in this hospital three times during the past seven years and diagnoses of osteoarthritis of the lumbar spine and bilateral testicular atrophy were made. Upper gastrointestinal series and oral cholecystogram had been negative. His body build was described as eunuchoid.

His present illness had begun two months prior to admission with "pneumonia," and he had been told that he had "an enlarged heart and an enlarged liver and dropsy." He had been digitalized, with some improvement of symptoms. Three weeks before admission his left leg became swollen, tender, and hot, but this had subsided. Three days before admission he developed nausea with occasional vomiting and a "diarrhea" consisting of 4 to 5 loose, yellow stools daily. Two days before admission he developed fairly severe epigastric pain which radiated into the right lower quadrant and was accompanied by "cold sweats."

*Physical Examination:* Temperature 98.6 F., pulse 104, respirations 20, blood pressure 130/80. The patient appeared both acutely and chronically ill. He complained constantly of pain in the right lower quadrant and right flank. Eyes, ears, nose and throat examinations were not remarkable. There was an increase in the A-P diameter of the chest, the chest expansion was poor, and the lungs were clear to percussion and on auscultation. The heart was moderately enlarged to the left. The pulse was irregular and a gallop rhythm was noted.

The abdomen was not splinted; however, there was marked tenderness in the right upper quadrant and examination produced marked muscle guarding. Rebound tenderness definitely was present and seemed most marked in the right lower quadrant. Peristalsis was diminished. No distension was present and no hernias were noted. Rectal examination was negative.

The dorsalis pedis pulsations were absent bilaterally; the radial and brachial pulsations were absent on the right but both subclavian pulsations were noted. The other peripheral pulsations were normally present. The neurological examination on admission was negative, but weakness of the left arm and leg and a left Babinski reflex were present next morning.

*Laboratory Data:* Red blood cell count 4.6 million, hemoglobin 12.8 gm. per cent, white blood cell count 10,400 with 89 per cent polys. Bleeding and coagulation time were normal. Urinalysis revealed a trace of albumin and 3 to 4 white blood cells and 8 to 10 red blood cells per high power field; the specific gravity was 1.015. Serum amylase 42 mg. per cent. Prothrombin time 100 per cent. Total proteins 6.6 Gm. per cent with A/G of 4.4/2.2. CO<sub>2</sub> 23 mEq/l. NPN 31 mg. per cent. Serologic test for syphilis negative. Electrocardiogram was interpreted as showing: (1) right ventricular enlargement, probable; (2) digitalis effect; and (3) subendocardial infarction to be ruled out.

*X-rays:* Chest film revealed a cardiothoracic ratio of 17:5/32. The aorta was elongated and tortuous. There were a few scattered areas of calcification in the lung fields. Flat and erect films of the abdomen revealed only possibly a small amount of gas in the terminal ileum.

*Course:* When the patient developed more marked right lower quadrant pain and rebound tenderness an exploratory laparotomy was performed through a McBurney incision (inhalation anesthesia used). The appendix, cecum, ascending colon, and entire small bowel were visualized and were normal. Postoperatively he continued to have the pain. The following morning the nurse noted that he did not respond to verbal stimuli and that he had developed a more marked left hemiplegia. A lumbar puncture produced clear fluid which on study showed no remarkable changes. He developed Cheyne-Stokes respirations and expired on his fifth hospital day.

#### Discussion

DR. ROSENBERG: This elderly white male farmer had been in relatively good health, with the exception of osteoarthritis of the lumbar spine and bilateral testicular atrophy, until two months prior to his last admission. His body build was described as eunuchoid, which would indicate that his testicular atrophy was prepubertal in onset. The absence of other relevant history or testicular biopsy findings make it impossible to assign a more definite etiology to this patient's eunuchoid state.

Three weeks before his last admission he developed thrombophlebitis of the left leg, but this had subsided by the time of admission. It is entirely possible that a relationship existed between the acute respiratory episode two months prior to admission and the presence of the thrombo-embolic disease, which may have resulted in pulmonary embolism and infarction, and contributed to the onset of congestive heart failure.

\*From the Medical and Laboratory Services of the Veterans Administration, Medical Teaching Group Hospital (Kennedy), Memphis, Tenn

Three days prior to admission he developed evidence of digitalis intoxication manifested by nausea, vomiting and diarrhea. Nausea and vomiting are the commonest gastrointestinal manifestations of digitalis intoxication; diarrhea is less common. Two days prior to admission the patient noted the onset of severe epigastric pain, radiating into the right lower quadrant and accompanied by cold sweats.

Pertinent physical findings on admission revealed evidence of cardiac enlargement and irregularity, a gallop rhythm being present. Abdominal findings revealed marked tenderness in the right upper quadrant associated with muscle guarding and rebound tenderness in the right lower quadrant. Examination of the peripheral pulses revealed absence of the radial and brachial pulsations on the right. There was no positive neurological findings on admission, but evidence of a left hemiplegia was present by the next morning.

There was little in the laboratory data that was helpful. A mild leukocytosis was present. A trace of albumin and microscopic hematuria were also noted. The electrocardiogram revealed nonspecific changes associated with probable right ventricular enlargement. A chest X-ray confirmed the suspicion of cardiac enlargement.

The patient's course in the hospital was characterized by the continuation of abdominal and neurological symptoms and signs. Despite the performance of an exploratory laparotomy no cause for the abdominal complaints was noted. The left hemiplegia, which was noted the morning after admission, became progressive. Spinal fluid examination did not contribute to delineation of the etiology of the hemiplegia. The patient apparently died as a result of a progressive neurologic involvement.

In the differential diagnosis of conditions, which may have contributed to this patient's clinical picture, several possibilities must be considered. It is possible that this patient had long-standing thrombo-embolic disease with several episodes of pulmonary infarction. It is also possible that the patient's terminal episode revolved around the presence of a myocardial infarction with mural thrombus formation and development of peripheral emboli to the mesenteric vas-

cular system, and to the cerebral arterial tree. The fact that no evidence of mesenteric vascular occlusion was noted at time of surgery, and that the electrocardiogram did not reveal a more diagnostic pattern, tend to rule against this possibility. The negative findings at surgery also tend to rule out the presence of primary abdominal conditions such as penetrating or perforating peptic ulcer, acute hemorrhagic pancreatitis, gallbladder disease, or appendicitis. The presence of arteriosclerosis obliterans, with multiple vascular occlusion on that basis, cannot be ruled out. Although Buerger's disease should also be considered in the differential diagnosis, the patient's age and his lack of obvious involvement in the extremities help to rule this out.

One condition that we know was present is "pulseless disease," which is one of the manifestations of the aortic arch syndrome. This occurs when a portion of the aortic arch or its main branches becomes occluded. Cerebral manifestations may be present when the occlusion involves one of the common carotoid vessels. The cerebral manifestations may be of insidious onset, or may simulate a cerebrovascular accident with hemiplegia. A syndrome of unilateral blindness associated with contralateral hemiplegia may be seen when the ophthalmic artery is involved in the occlusive process. Occasionally, the cerebral vascular supply may be occluded on one side with no resulting cerebral manifestations. Such a situation is more likely to occur when the occlusion is gradual in onset and development. Thus, in an effort to explain the triad of findings presented by this patient (abdominal pain, hemiplegia, and "pulseless disease") we must consider the differential diagnosis of the various etiologic factors which may give rise to the aortic arch syndrome.

The subject of aortic arch syndrome was recently reviewed,<sup>1</sup> and a number of etiologic possibilities were discussed. It must first be noted that this syndrome may result from obscure causes which cannot be diagnosed, even at post-mortem examination. Luetic aortitis, with or without aneurysm, may give rise to such a situation as this patient presented. This patient's blood serology was negative and his chest X-ray examination failed to reveal evidence sug-

gestive of aortic aneurysm. Trauma to the chest, with or without resultant aneurysm formation, may also give rise to occlusion of the aortic arch or its main branches. This patient had no history or signs of trauma or aneurysm formation. A rare disease entity known as essential thrombophilia may cause thrombosis and occlusion of the aortic arch. Patients with this condition show thrombocytosis in the peripheral blood, and usually hepatosplenomegaly. Various types of arteritis, non-leukic in etiology, have been implicated in this disorder. Such a condition can only be diagnosed on pathologic grounds. Arterial emboli may occlude the aortic arch or its branches. Such a possibility is present in this patient. Extravascular upper mediastinal tumors may, by mechanical pressure, occlude the aortic arch. This effect may also be achieved in the thoracic outlet syndrome, as manifested by scalenus anticus, and related disorders. "Neurologic" pulse changes may occur, especially following cerebrovascular accidents. The changes noted are diminution to occasional absence, of peripheral arterial pulsation in the extremities involved. Primary thrombosis of the internal carotid or other main branches of the aortic arch may occur. This type of thrombotic occlusion may be idiopathic in nature, or specifically related to any of the previously mentioned causes for this condition.

Congenital anomalies appear to be predisposing factors in the aortic arch syndrome. Such congenital anomalies include coarctation of the aorta and patent ductus arteriosus. De Garis and co-workers<sup>2</sup> studied autopsy specimens from a large group of white and Negro patients. They described several varieties of aortic arch anomalies which they found in their autopsy material. Although the commonest type of aortic arch was that in which the innominate artery gave rise to the right subclavian and right common carotid arteries and the left common carotid and left subclavical arteries arose as separate branches of the arch, many other arrangements were noted.

Another condition which may be involved in the aortic arch syndrome is dissecting aneurysm of the aorta. The patient's abdominal pain and microscopic hematuria could be explained on the basis of the dis-

section extending down the abdominal portion of the aorta and into the renal arteries. Both the hemiplegia and the loss of pulsation in the peripheral vessels of the right upper extremity could be explained on the basis of dissection in the region of the aortic arch with secondary involvement of the carotid and subclavian vessels, leading to occlusion. The fact that nothing unusual was noted at the time of the exploratory laparotomy does not rule out this condition.

Dissecting aneurysm of the aorta is a condition in which the percentage of correct ante-mortem diagnoses is poor. The situation must be suspected before it is diagnosed. Clinical features which may be helpful include the fact that it is twice as common in males than females; the characteristic pain and its path of radiation; the presence of a diastolic aortic bruit, and the occasional presence of ecchymotic areas in the skin over the chest. Previously existing hypertension is not necessarily present and patients in the acute phase of their illness do not regularly exhibit an elevation of blood pressure. Such laboratory evidence as anemia, hematuria and leukocytosis are helpful. Chest X-ray may reveal a double aortic shadow, but this is an undependable criterion. From a pathological viewpoint it should be noted that the underlying change in this condition is cystic medial necrosis of the aorta. When secondary rupture of the intima occurs dissection may follow. Seventy per cent of all dissecting aneurysms begin in the ascending portion of the aorta, and the most frequent mechanism of death is one of hemorrhage and shock.

There are several broad clinical categories into which the symptoms and signs may fit in this condition. The patient may present a picture which is typical of myocardial infarction, with or without significant electrocardiographic changes. When dissection of the vessels of the aortic arch occurs cerebral and neurological manifestations may become prominent. Development of a left hemothorax with accompanying confusing pulmonary signs is not uncommon. On the other hand, patients may present a clinical picture suggesting an acute abdominal catastrophe, which was true in this patient's case. If a mass is noted in the epigastrium and the symptoms are not alarming or acute



the possibility of an intra-abdominal malignancy must be ruled out. Some patients may have complaints pointing to primary renal involvement, such as flank pain and gross hematuria. When this occurs it is due to extension of the dissection into the renal vessels.

Alexander Blain, III<sup>1</sup> recently reviewed the surgical approach to dissecting aneurysms of the aorta. He stressed the fact that 12 per cent of his series of cases were misdiagnosed as having surgical acute abdomens and that 50 per cent of these patients were operated because of the error in diagnosis. Because of this incidence of laparotomy he suggested several possible courses of action which might be undertaken at time of operation. These included the use of sclerosing solutions, wrapping of the aorta, re-entering the aortic intima at a point below the initial tear in an effort to establish a double channel, repair of intimal tears and insertion of gel foam into the media in the region of a localized dissection. Some of these procedures have been tried with variable success, others are merely speculative.

#### Final Clinical Diagnoses

1. Arteriosclerotic heart disease.
2. Pulmonary fibrosis.
3. Testicular atrophy and eunuchoidism.
4. Osteoarthritis of the spine.

I feel that the most likely cause for his terminal episode was a dissecting aneurysm of the aorta with involvement of the ascending portion of the aorta, the innominate, right common carotid and right subclavian arteries, resulting in their occlusion, and giving rise to the aortic syndromes with development of vascular occlusion to the right upper extremity and right side of the brain. I would like to correlate the recent episode of thrombophlebitis more definitely to the terminal clinical picture, but am unable to do so. I would not be surprised if pathologic examination of the lungs revealed evidence of relatively recent pulmonary infarcts.

#### Anatomical Findings

DR. YOUNG: When the body was opened each plural space contained 100 cc. of clear straw-colored fluid. The pericardial sac

contained no excess fluid. In the pulmonary artery there was a large ante-mortem thrombus blocking about three-fourths of the main channel. This embolus straddled the bifurcation of the artery.

The left lung weighed 340 Gm. and the right 400 Gm. Both lower lobes were bluish-red in color and non-crepitant. When the pulmonary artery branches were opened, emboli were found in many of the smaller divisions of both lungs, and the branch to the left lower lobe was entirely occluded. Both lung bases exuded reddish edema fluid when sectioned and early infarction was present in the left lower lobe. Microscopically, the emboli were of different ages; many were attached to the endothelium and had partly organized and recanalized; others were more recent and not attached to the endothelium. Areas of hemorrhage and infarction were extensive in the left lower lobe. Edema and congestion were generalized throughout both lungs. The small branches of the pulmonary artery revealed marked concentric thickening.

The heart weighed 450 Gm. The most significant finding was a widely patent foramen ovale which measured 2 cm. across. The right ventricle was greatly hypertrophied, measuring 0.8 cm. in thickness. The pulmonic valve measured 9.5 cm. in circumference.

The significant other findings were large and small infarctions in the spleen, liver, both kidneys, and the right cerebral hemisphere. There was complete occlusion of the left renal artery by a recent embolus. The cause for the gastrointestinal symptoms was found in partial occlusion of the superior mesenteric artery by thrombus material. The bowel at necropsy revealed early gangrenous changes. There was phlebothrombosis present in the left common iliac vein and the left leg veins. Also, there was occlusion of most of the innominate artery and all of the subclavian and right common carotid arteries by ante-mortem thrombosis.

#### Final Anatomical Diagnoses

1. Phlebothrombosis, left leg veins.
2. Pulmonary emboli, multiple, bilateral, and pulmonary infarction, lower left lobe.

3. Patent foramen ovale, heart, with paradoxical embolism and infarcts in liver, spleen, kidneys, brain and intestine.

#### Comment

The foramen ovale is, of course, patent during fetal life, but closes immediately after birth in most instances. Norris<sup>1</sup> found a demonstrable opening in only 86 of 8,640 necropsies. In many such instances the opening is non-functional because of the oblique course of the channel. For paradoxical embolism to occur there must be increased pressure in the pulmonary circuit, thus shunting blood and emboli to the left side of the heart. Reverse paradoxical embolism can occur in situations such as mitral stenosis with valve vegetations or left auricular thrombi and a patent foramen ovale.

This case presents two other interesting features. There had been numerous small embolizations into the pulmonary artery

branches, with few infarctions, a condition which may result in severe dyspnea and right-sided heart failure. There also was a saddle embolus at the bifurcation of the pulmonary artery which only partly blocked each main branch but no doubt further increased pressure in the right side of the heart.

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## President's Letter



DR. TRABUE

It is a little hard to take any serious interest in national legislation at this time of year. When Congress is in session and the headlines are in the newspapers these matters are brought more forcefully to our attention.

We should have learned, though, that by the time the headlines appear it may be too late and that actually the best time to use our influence is between sessions when our Congressmen and Senators are at home.

There is one measure that is certain to face early action of some sort in January, just a few weeks hence, and we would do well to give it our serious attention at this time. I have reference to H.R. 7225, which is known as the Social Security Amendments of 1955.

To those who are not familiar with the provisions of this act it will come as a surprise that the A.M.A. considers this the most important legislation, as it affects our profession, in the past five years. It falls neatly into the pattern set by Oscar Ewing and Arthur Altmeyer and is part of the 'cradle-to-the-grave' planning of the International Labor Organization. Title II of H.R. 7225 provides that cash benefits will be paid after the age of 50 years for permanent and total disability. Thus any man or woman who is entitled to benefits under Social Security will be able to secure retirement pay for the balance of their lives if they can prove permanent and total disability any time after they reach fifty years of age. Think of the temptation and think of the pressures. Certainly many workers who would otherwise consider themselves entirely able to work will be sorely tempted to use every artifice to prove that they are entitled to disability benefits. Votes will hinge on the ability of politicians at every level to produce certificates of disability. These certificates will of course have to be signed by a physician and one does not require a vivid imagination to foresee the pressures that will be

brought to bear on us and the reprisals that honest physicians will suffer when they refuse to go along with unjustifiable demands.

What will the cost be? Can the economy of our country survive a plan as generous as this? We must remember that Social Security is not an insurance plan in which benefits are paid on the basis of premiums paid in. On the average all employee taxes have paid only two per cent of the costs of pensions that are presently being paid under the Social Security system. Actuaries have calculated that the government has already accrued a future liability of more than \$280 billion in benefits to persons who have paid in taxes in some amount. By way of comparison, *this sum is greater than our entire national debt.*

And where will it all end? Why should fifty be the lower age limit? Why not forty, or thirty, or twenty? And why not payments for temporary disability? The maximum benefits have already risen from \$25 to \$108.50 per month. When will they reach a pension of \$250 a month?

It is time to take a look at where we are going in Social Security. It is up to us to inform our Washington representatives that we are strongly opposed to this principle of saddling all future generations of Americans with a hopeless debt that will require a pay roll tax of 35 to 50 per cent. H.R. 7225 has already passed the House of Representatives by a roll call vote of 372 to 31 without any public hearing. It is now in Senator Byrd's Senate Finance Committee and will undoubtedly receive their consideration early in January. Experts predict that if it is favorably recommended by this Committee that it will be approved quickly by the Senate. Now is the time to let your voice be heard in asking that this bill be given the most thoughtful study before any further action is taken.



# THE JOURNAL

OF THE  
TENNESSEE STATE MEDICAL ASSOCIATION

Published Monthly  
Devoted to the Interests of the Medical Profession of  
Tennessee  
Office of Publication, 321-325 Doctors Building, Nashville,  
Tenn.

Acceptance for mailing at special rate of postage provided  
for in Section 1103, Act of October 3, 1917,  
authorized July 15, 1932.

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NOVEMBER, 1955

## EDITORIAL

### COBALT THERAPY IN ANEMIA

The treatment of anemia has always been a problem for the practicing physician for two reasons: (1) because of his own limitations in making a specific etiologic diagnosis and (2) because of the tremendous number of anti-anemic preparations made available to him by various drug houses. There are a number of anti-anemic preparations including iron, vitamin B<sub>12</sub>, liver extract and folic acid. In general, these substances are of value only when a specific deficiency for that substance exists. In anemias due to a disturbed bone marrow function such as is seen in hypoplastic anemia, "Refractory" anemia, bone marrow failure, anemia of infection and of nephritis, the need for a bone marrow stimulant to increase the productive capacity of the marrow is certainly great. Much study has gone into possible marrow stimulants and there is evidence that aside from anoxemia, the

male sex hormone, the adrenal cortical hormone and possibly cobalt may be of value in this regard. The administration of cobalt induces erythrocytosis in the experimental animal and has been used with some effect in man in the anemia of chronic infection and of chronic nephritis with uremia. Whether it has any value in the relatively common clinical conditions of hypoplastic anemia and as an adjuvant to iron therapy in chronic iron deficiency has been under study. Recently an American product featuring the combination of iron and cobalt has appeared on the market about which the following statement has been made: "Strong evidence in support of the assumption that cobalt improves iron utilization in iron deficiency anemia is provided by two recent investigations."

In an attempt to obtain present thought regarding the use of cobalt in the therapy of anemia a panel of hematologists<sup>1</sup> was asked the opinion of its members regarding the use of cobalt in the therapy of anemia, the use of cobalt to potentiate iron therapy in the treatment of iron deficiency anemia and the value of certain cobalt-iron preparations. One of the most important discussions regarding the use of cobalt therapy was its effect upon the tissues. It is known that feeding cobalt to normal animals produces polycythemia. Cobalt is also able to "break through" the pathogenic mechanisms that inhibit adequate erythropoiesis in the anemias of inflammation, uremia, or cancer. There is evidence to suggest that cobalt has a deleterious effect upon intracellular oxygen transportation. If this is true, cobalt's ability to stimulate erythropoiesis is similar to that of high altitude. Cellular systems that require oxygen are deprived of it, and this stimulates the oxygen sensitive device that evokes the bone marrow's response. Therefore, one wonders how much is gained if the oxygen capacity of the blood is increased by means of an agent that reduces the cells' ability to utilize oxygen. It would seem that the use of cobalt in anemia is of dubious value even if it raises the hemoglobin concentration.

<sup>1</sup>The Use of Cobalt and Cobalt-Iron Preparations in the Therapy of Anemia, Panels in Therapy, Blood 10:852, 1955.

One of the panelists also was concerned about the harmful side effects of cobalt therapy. He stated that on three occasions he had attempted to give cobalt to an old man with hypoplastic anemia and that each time severe angina pectoris appeared and persisted until the cobalt was discontinued. Others have reported substernal pain and claudication of leg muscles in patients who have been given this type of medication. In addition, other effects than those described as due to hypoxia have appeared, including hyperthyroidism and goiter which have developed under cobalt therapy and disappeared when it was stopped.

It would appear from the discussions of the various panel members that there is at the present time little indication for cobalt therapy and great care must be exercised in using this type of medication because of the danger of symptoms due to tissue hypoxia which may occur. At the present time it would seem that in patients who need treatment with iron, adequate response to iron itself can be expected and there is really no necessity for "potentiating" the use of iron with cobalt.

As a result of this panel discussion it would seem that the average practitioner might better wait for further evidence of the necessity of cobalt before subjecting his patients to the risk and expense of a type of treatment which up to the moment has not been proved of value.

A. B. S.



#### FEDERAL SPENDING FOR MEDICAL CARE

Elsewhere in this issue is an abstract from the A.M.A. Washington Office on Federal Medical Spending for Fiscal Year 1956. It is important that each reader of the JOURNAL read this both as a doctor and as a citizen. Editorial attention is directed to this information not to quarrel with it, but rather as information as to what goes on. Some of the spending is agreeable to the medical profession and with its approval. Some is contrary to a political philosophy of free enterprise and the maintenance of individual self-sufficiency which has characterized the American citizenry of the past.

These matters aside, it is our duty to call the profession's attention to Federal spend-

ing in the health field as a matter of information. An occasional summary, as the present one by the Washington Office of the A.M.A., is essential since money is appropriated in dribbles of a few million here and there which the average reader of the newspapers may miss and which he will probably not add up for the totals.

Three agencies alone have a spending program of over a half billion each,—Defense Department, Veterans Administration and the Department of Health, Education and Welfare. During the current fiscal year the budget for health has increased 6.4 per cent over the preceding year to a total of \$2,268,800,000.00. It is said this amounts to 15 times the amount needed to run Congress and the federal courts, or 14 times the total budget of the State Department. Put in another way, the government "puts up \$15 of every \$100 spent by the American Public (publicly or privately) for health and medical purposes, from the purchase of tooth paste to financing cancer research."

Because of projected cuts in personnel in the Armed Forces, less will be spent this year. The Veterans Administration plans to spend some \$40,000,000 more (to a total of \$790,185,800), the increase going mainly into the care of patients with an increase of some \$700,000 in medical research. There is a planned decrease of \$17,000,000 in the building program. Thus, actually the V. A. program provides for an increase of about \$50,000,000 for patient care.

The great increase in the spending of public monies in the health field is in the Department of Health, Education and Welfare. Here the budget has been increased over last year by about 128 million dollars to a total of \$526,935,400. Increases have occurred because of expansion of the Hill-Burton hospital and clinic programs, increase in research activities, and the establishment of certain new categories. The National Institutes of Health, and Institutes of Cancer, Heart, Mental Health, Arthritis and Metabolic Diseases, Neurological Diseases and Blindness, Microbiological, and Dental research have all had increases varying from one to 10 million dollars. HEW also has increased its budget for Vocational Rehabilitation by 8 million, the Children's Bureau by 4 million, assistance to states by



5 million. Funds for the Public Health Service Hospitals, tuberculosis, venereal and communicable disease control remain about the same as do the funds for Foreign Quarantine Service and Engineering, Sanitation and Industrial Hygiene. New items for HEW are Indian Health Activities (\$38,840,000), Poliomyelitis Vaccine Program (\$30,000,000) and Research (\$1,200,000).

Few changes appear in the medical budgets of the Civilian Defense Administration (30 million), Atomic Energy Commission (28 million), International Cooperation Administration (25 million), Department of State (13 million), Department of Labor (7 million), Federal Employees Health Program (6 million), Department of the Interior (6 million), Panama Canal Zone (6 million), National Science Foundation (5 million), Department of Treasury (3 million), Department of Justice (1.5 million), Federal Trade Commission (1 million), and five other federal activities budgeting less than a half million each.

Thus government is in the medical business to the tune of two and a quarter billion dollars for the next fiscal year. Some of these funds go to the protection of the public in the field of public health and drug control. Some go to the essential medical activities in the Armed Services. Some go to the building of hospitals (Hill-Burton bills) which, without federal funds, would often be an impossibility.

Great expenditures representing a new philosophy in federal spending are those in research in the various Institutes. Much of this money goes to the medical schools as grants for research. Indirectly these aid in the teaching of medical students and in graduate training. These funds have replaced and amplified those philanthropic activities of the millionaires who in the past supported investigative work, but whose money is now taken in taxes.

A further extension and expansion has taken place in the provision of medical care for segments of the population who previously provided for themselves, if able to do so, and if not, were cared for by charity in their own community. Into this large category fall those patients with a non-service connected disease cared for by the Veterans Administration, and the depend-

ants of men in the armed services. It is in this area of federal spending where one can argue pro and con as to the deteriorating effects of socialism on the moral fibre of a people. Medical indigency is a fact, since he of borderline income can not pay for catastrophic illness. But the expenditure of federal funds upon the advice of the doctors and others in the home community is so far ahead of bureaucratic medicine, directed from Washington, both as to honesty and economy that little is left for argument on this score. From his close observation of the expenditure of funds for Vocational Rehabilitation and allied activities, your editor believes that the patient is given care equal to, if not better than that generally provided by governmental medical organizations, and undoubtedly at less cost to the taxpayer. Under such a philosophy the truly medically indigent patient, as judged by his own fellows, will not suffer one whit from lack of good medical care.

Large federal expenditures for medical care are here to stay. They are essential in some fields and possibly should be extended in others. But the basic philosophy should be that of expenditure on a local level both for economy and honesty.

R. H. K.

## DEATHS

**Dr. Fred M. Duckwall**, 54, Kingsport, died September 27th as a result of a heart attack. He was President of the Medical staff at Holston Valley Community Hospital.

**Dr. Joseph M. Capps**, 88, Kenton, died September 9th in Obion County Hospital in Union City.

**Dr. T. R. French**, 84, Dandridge, died at his home recently as the result of a long illness.

**Dr. G. L. McDaniel**, 74, Henry, died September 9th at his home.

## PROGRAMS AND NEWS OF MEDICAL SOCIETIES

### Chattanooga-Hamilton County Medical Society

The Society held its October meeting with the Tennessee Valley Medical Assem-



bly. On October 20, the Society cooperated with a joint meeting with the Chattanooga Bar Association in a Medico-Legal Clinic.

### **Memphis-Shelby County Medical Society**

The Society held its regular session on September 6 at the University Club. The scientific program was preceded by a social hour and dinner. The scientific program consisted of an illustrated talk on the subject "The Surgical Treatment of Pain" by Dr. William F. Meacham of Nashville. Approximately 300 members were present.

### **Roane County Medical Society**

The Society met on September 27 in the dining room of the Oak Ridge Hospital. The scientific program was presented by Dr. Edward P. Cawley, of the University of Virginia, Charlottesville; his subject was "Virus Diseases Skin and Adjoining Mucous Membranes."

### **Knoxville Academy of Medicine**

The Society held its regular meeting on the evening of October 11. The scientific program consisted of a paper by Dr. Wade H. Boswell on "Suicide," discussed by Drs. Roger White and B. F. Peterson. Dr. John Dougherty presented a movie on "Complicated Urologic Surgery Due to Obstructions."

### **Nashville Academy of Medicine and Davidson County Medical Society**

The regular monthly meeting of the Society was a dinner meeting held at the Vanderbilt University Hospital on October 28. The scientific program was presented by Dr. Sidney Burwell, Research Professor of Clinical Medicine at Harvard University Medical School. Dr. Burwell's subject was "Heart Disease and Pregnancy."

### **Consolidated Medical Assembly**

The Society conducted its regular monthly meeting on October 4 in the New Southern Hotel. Dr. Manning Hudson, Jr., Assistant Professor of Medicine, and Dr. George Twenty, Assistant Professor of Surgery of the University of Mississippi Medical School, were the guest speakers. Dr. Hudson discussed "Medical Management of

Thyroid Disease" and his paper was discussed by Dr. George Harvey of Jackson. Dr. Twenty discussed "Surgical Management of Thyroid Disease" and the discussion was led by Dr. George Dodson.

## **NATIONAL NEWS**

### **Federal Medical Spending for Fiscal Year 1956**

The Third annual report on federal health spending has been prepared by the Washington Office of the A.M.A. It is a factual study based on budgets, appropriation bills, and information obtained directly from government agencies and departments.

The report shows that this year the Department of Health, Education, and Welfare with almost a one-third increase reaches a new high mark in spending for health and medical programs—more than half a billion dollars. Only two other agencies' medical spending is over the half billion figures, Defense Department and Veterans Administration.

Compared with last year, HEW is spending 32% more in the health fields. The increase—\$127,754,900—is explained largely by sharp boosts in funds for Hill-Burton hospital construction, for vocational rehabilitation, for medical research and for the medical care of the indigent, and by a \$30 million appropriation to purchase Salk vaccine and finance inoculation campaigns.

Total federal health spending also will reach a new high of over two and one-quarter billion dollars during the current fiscal year, about \$2,268,800,000.00, a 6.4% increase over last year. Even in a national budget well up in the billions, this figure for federal medical health spending is not inconsequential. It is about 15 times the amount needed to maintain Congress and the federal courts, 14 times the total budget of the State Department, and four times more than is spent by either the Labor Department or the Post Office Department. Expressed another way, Uncle Sam puts up \$15 of every \$100 spent by the American people (publicly or privately) for health and medical purposes, from purchase of toothpaste to financing cancer research.

### **Health Insurance—1954**

Nearly two out of every three men, women and children in the United States now are protected by voluntary health insurance. The Health Insurance Council announced this in releasing the findings of its ninth annual survey of health insurance in America, as of December 31, 1954.

This survey shows that many more Americans now have more and better health insurance than ever before. Measured in terms of benefits paid

out by insuring organizations in 1954, striking progress was made during the year. And the survey figures indicate continuing progress at rapid rates for the foreseeable future.

It is established that, by the end of this month, some 104 million persons will have voluntary health insurance against hospital expenses. About 89 million people will have surgical expense protection, and 50 million will have regular medical expense protection. These figures are based on conservative projections of the 1954 year-end data presented in the survey.

The total of benefit payments on health insurance claims reported by the survey for 1954 exceeded \$2.7 billion, a gain of 11% over the previous year. Of the total amount, more than half went to help meet the hospitalization expenses of beneficiaries, and more than \$730 million went for surgery and medical care. Benefit payments to policyholders by insurance companies for loss of income due to disability totaled in excess of half a billion dollars last year, the survey reports.

Of the aggregate benefit payments in 1954 by all forms of voluntary health insurance, 56% of the total came from the insurance companies. The dollar amount paid by the companies was over \$1.5 billion, including loss-of-income benefits.

On December 31, 1954, the date as of which the survey was made, a total of 101,493,000 Americans had hospital expense protection. This represents an increase of 4.3% during that year, a rate of increase which is over 2½ times the rate of population growth in the same period. Since the beginning of 1941, the number of persons with hospital expense protection has multiplied nearly 8½ times.

Nearly 86 million persons had surgical expense protection by the end of 1954. This represents an increase of 6.1% over the previous year. Ordinarily, people with surgical coverage also have hospitalization protection. So, up to 85% of those with hospital expense protection also had surgical coverage—up from a figure of 83% one year earlier. Since 1941, the number of persons with surgical insurance has multiplied about 16 times.

Regular medical expense coverage increased by more than four million persons, or nearly 11% during 1954, to give a total of more than 47 million who have this protection against the cost of non-surgical medical care by their doctors. People with medical expense protection usually have hospital and surgical protection as well.

A total of nearly 39 million workers had protection at the close of 1954 against loss of income due to disability. This figure represents about 60% of the total civilian labor force in the nation at the time.

The newest form of voluntary health insurance—major medical expense insurance—is shown by the survey to protect more than 2.2 million persons against the costs of catastrophic illness. This figure represents a gain of 83% during the last year.

Major medical expense insurance, the Council

points out, not only goes beyond customary policies and plans in protecting against heavy hospital and doctor bills, but it also protects against almost all other types of medical expense due to disability, including the costs of special duty nursing, artificial limbs and appliances, and drugs and medicines.

The Health Insurance Council consists of nine associations in the insurance business. These associations are in turn made up of companies providing the various forms of protection against hospital, surgical and medical costs and loss of income due to disability. These companies provide most of the health insurance issued by insurance companies in the United States.

## MEDICAL NEWS IN TENNESSEE

### Tennessee Valley Medical Assembly

The Third Annual Tennessee Valley Medical Assembly, sponsored by the Chattanooga-Hamilton County Medical Society was conducted in the Read House Hotel on October 3 and 4. Approximately 1,000 physicians representing thirty states were in attendance.

Appearing on the program were the following essayists with the titles of papers presented: Dr. Philip Thorek, Chicago, "Intestinal Obstruction"; Dr. Edgar Hull, New Orleans, "Emergency Use of Corticoids and Corticotropins"; Dr. George Pack, New York City, "Carcinoma of the Breast"; Dr. Robert B. Greenblatt, Augusta, Ga., "Use and Abuse of Endocrines in General Practice"; Dr. Arthur C. Curtis, Ann Arbor, Mich., "Cutaneous Manifestations of Systemic Diseases"; Dr. Brian Blades, Washington, D. C., "Traumatic Injuries of the Chest"; Dr. Harry E. Bacon, Philadelphia, "Anal and Rectal Lesions and Their Treatment"; Dr. Waldo E. Nelson, Philadelphia, "Pediatric Care by the General Practitioner"; Dr. John C. Krantz, Jr., "The Simplicity to Wonder"; Dr. Alton Ochsner, New Orleans, "Cancer of the Lungs"; Dr. Thomas J. Dry, Rochester, Minn., "Coronary Artery Disease"; Dr. Nicholas J. Eastman, Baltimore, "Complications of Pregnancy"; Dr. Elmer Hess, Erie, Pa., "Management of Ureteral Calculi," Dr. Edgar Hull, New Orleans, "Manifestations and Treatment of Extra-Intestinal Amebiasis"; Dr. J. Spencer Speed, Memphis, "Present Concepts of the Ruptured Inter-vertebral Disc Syndrome"; Dr. Sara M. Jor-

dan, Boston, "The Irritable Colon"; Dr. Charles A. Doan, Columbus, Ohio, "The Diagnosis and Treatment of Acute Leukemic States"; Dr. Alexander Brunschwig, New York City, "Carcinoma of the Cervix."

Dr. Guy M. Francis, Chattanooga, was Chairman of the Tennessee Valley Medical Assembly program and Dr. William G. Stephenson was Co-Chairman.

### **American Academy for Cerebral Palsy**

More than 100 physicians recently attended in Memphis the Convention of the American Academy for Cerebral Palsy.

The three-day session featured nine instruction courses conducted by outstanding authorities in fields relating to cerebral palsy. Seventeen scientific papers were presented.

Three instruction courses were given simultaneously each day. Subjects included "Orthopedic Surgery in Cerebral Palsy," "Diagnosis, Classification and Principles of Treatment in Cerebral Palsy" and "Speech and Hearing in Cerebral Palsy." Conducting the above courses were: Dr. William T. Green of Boston, Dr. William Cooper of New York, Dr. Carroll M. Silver of Providence, R. I., Dr. Meyer A. Perlstein of Chicago and Dr. Harold Westlake of Evanston, Ill. Other guest speakers included Dr. Leslie B. Hohman of Durham, N. C., Dr. Edgar A. Doll of Bellingham, Wash., Dr. Winthrop M. Phelps of Baltimore, Dr. Margaret H. Jones of Los Angeles and Dr. William L. Minear of Hot Springs, N. M.

Dr. Alvin J. Ingram of Memphis was Program Chairman and Dr. Robert A. Knight of Memphis was Secretary-Treasurer of the Academy.

### **Pediatrics Seminar**

Le Bonheur Children's Hospital conducted its fourth annual Pediatrics Seminar October 19 and 20 in Memphis. The sessions were on new technics and procedures, beneficial to both general practitioners and specialists. More than 150 physicians from the mid-south attended. Speakers were: Dr. Alexis F. Hartmann, Washington Univer-

sity School of Medicine; Dr. Waldo E. Nelson, Temple University School of Medicine; Dr. Tague C. Chisholm, University of Minnesota Medical School.

★

Dr. C. Barton Etter, Memphis, was Chairman of registration. Dr. James G. Hughes, Memphis, headed the scientific committee, and Dr. George S. Lovejoy was chairman of entertainment.

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Dr. John B. Youmans, Dean, was elected to be President-Elect of the Association of American Medical Colleges at its annual meeting in October at Swampscott, Mass. He had been Treasurer of the organization for a number of years.

### **University of Tennessee College of Medicine**

A new \$878,000 Administration-Postgraduate Building has been added to Memphis' Medical Center and a \$900,000 expansion announced. The new building provides an additional 35,000 square feet of floor space for the university and is air conditioned throughout. The expansion program will provide seventh and eighth floors to the Institute of Pathology Building at an estimated cost of \$60,000; a fifth floor to the Pharmacy Building, costing approximately \$250,000, and modernization of the C. P. J. Mooney Memorial Library Building at an estimated cost of \$50,000. Bids on these three projects will be opened November 22. Completion of the projects will complete the 1951 building program of \$5,000,000, authorized by the Tennessee Legislature.

Four new staff members have been added to the Division of Chemistry, Doctors Robert L. Fischer, William E. Jefferson and Frederick W. Lengemann as instructors and Dr. Martin Loyd Minthorn, Jr., as research associate.

Dr. Robert C. Rendtorff has joined the staff as assistant professor of preventive medicine.



## PERSONAL NEWS

**Dr. John S. Powers, Jr.**, Kingsport, was a recent speaker for the Tennessee Heart Association in East Tennessee on behalf of the 1956 heart fund.

**Dr. Ira S. Pierce, Jr.**, Knoxville, has recently been employed as the Knox County Physician.

**Dr. Charles C. Trabue, IV**, Nashville, was the recent speaker on a panel discussing "Medical Aspects of Adoption."

**Dr. Joe Strayhorn**, Nashville, is Chairman of the Accident Prevention Committee for Tennessee of the American Academy of Pediatrics.

**Dr. Douglas Collins**, Chattanooga, has announced his association with **Dr. Harold A. Schwartz** in the practice of obstetrics and gynecology in Chattanooga.

**Dr. N. H. Culbertson**, Chapel Hill, was recently honored by his townspeople on his seventy-second birthday.

**Dr. W. K. Swann**, Knoxville, was a speaker to heart leaders as they met in Athens.

**Dr. B. M. Overholt**, Knoxville, recently addressed the Tri-County Medical Auxiliary at Elizabethton.

**Dr. J. H. Gammon**, Knoxville, has been employed by the Knox County Commission.

**Dr. Carlyle A. Newman**, Oak Ridge, is a newcomer to the medical staff of the Oak Ridge Hospital.

**Dr. R. B. Wood** and **Dr. Frank London**, Knoxville, recently participated in a symposium on "Heart Conditions."

**Dr. Robert M. Foote**, Nashville, was a panel member appearing before the Davidson County Business and Professional Women's Club.

**Dr. O. B. Murray** and **Dr. J. M. Higginbotham**, Chattanooga, were speakers at the Seventh District Medical Society of Georgia.

**Dr. Paul P. Westfall** has announced his plans to open an office for the practice of medicine in Copperhill.

**Dr. Eugene Philips** has opened his office for the practice of medicine in McMinnville.

**Dr. John E. Carne**, Dyersburg, has announced the opening of his office for the practice of medicine and surgery.

**Dr. William C. Carpenter**, Bristol, has closed his office and moved to Cincinnati.

**Dr. Mildred Stahlman**, Nashville, and **Dr. John P. Conway**, Memphis, were recent speakers before the Cardiac Nursing Institute held in Jackson.

**Dr. Nicholas Gotten**, Memphis, recently discussed medical economics before the Memphis Rotary Club.

**Dr. Robert E. Jones** has become associated with **Dr. Luke Nabers** and **Dr. J. A. Bollinger** for the practice of medicine in Morristown.

**Dr. John C. Burch**, Nashville, has been named President of the Nashville-Davidson County Chap-

ter, American Cancer Society. **Dr. B. F. Byrd, Jr.**, Nashville, has been named Vice-President.

**Dr. John C. Sharp**, Etowah, has been elected a member of the McMinn County Council.

**Dr. D. Scott Bayer**, Nashville, has been elected President, **Dr. R. E. Wyatt, Jr.**, Vice-President, **Dr. Homer M. Pace**, Secretary, and **Dr. Russell T. Birmingham**, Treasurer, of the Nashville Obstetric and Gynecological Society.

**Dr. John W. Avera**, Knoxville, announces a new office location at 714 Locust Street in Knoxville.

**Dr. I. H. Beasley**, Gallatin, **Dr. G. G. Keener**, Kingsport, **Dr. Edward Deal Gross**, Chestnut Mound, and **Dr. Basil Mayo**, Dresden, were among the 33 physicians recently honored by the University of Tennessee Medical Unit at commencement exercises.

**Dr. Clyde Alley**, Nashville, announces the removal of his office to the Medical Arts Building.

**Dr. Harrison J. Shull** announced the removal of his office to the Medical Arts Building in Nashville.

**Dr. Eugene M. Regen**, Nashville, announced the removal of his office to the Medical Arts Building.

**Dr. B. M. Overholt**, Knoxville, announces the removal of his office to 714 Locust Street, S.W.

## ANNOUNCEMENTS

### Florida Midwinter Seminar in Ophthalmology and Otolaryngology

The Tenth Annual University of Florida Midwinter Seminar in Ophthalmology and Otolaryngology will be held at the Sans Souci Hotel in Miami Beach the week of January 16, 1956. The lectures on Ophthalmology will be presented on January 16, 17 and 18 and those on Otolaryngology on January 19, 20 and 21. A midweek feature will be the Midwinter Convention of the Florida Society of Ophthalmology and Otolaryngology on January 18 to which all registrants are invited.

The Seminar lecturers on Ophthalmology this year are: **Dr. Francis H. Adler**, Philadelphia; **Dr. A. Gerard DeVoe**, New York; **Dr. Michael J. Hogan**, San Francisco; **Dr. C. Wilbur Rucker**, Rochester, Minn.; and **Dr. A. D. Ruedmann**, Detroit. Those lecturing on Otolaryngology are: **Dr. Frederick A. Figi**, Rochester, Minn.; **Dr. Lewis F. Morrison**, San Francisco; **Dr. Charles E. Kinney**, Cleveland; **Dr. John R. Lindsay**, Chicago; and **Dr. Bernard J. McMahon**, St. Louis.

### AMA Publishes Booklet on Relations Between Doctors and Hospitals

Just off the presses is a new pamphlet on the relationship of physicians and hospitals published by the A.M.A.'s Council on Medical Service. Entitled "Relation of Physicians and Hospitals," this 16-page booklet contains: (1) "Guides for Conduct of Physicians in Relationships with Institutions"

(adopted by the House of Delegates in December, 1951), and (2) "Report of the Joint Committee on Hospital-Physician Relationships of the Boards of Trustees of the American Medical Association and the American Hospital Associations" (adopted by the House of Delegates in June, 1953).

Since the House of Delegates adopted the position that the 1953 report should be considered a supplement to the 1951 report, both statements constitute official A.M.A. policy on this subject and are reprinted in this edition. Medical societies, hospital staffs and individual physicians may secure copies from the Council.

### **Boston Clinical Session Expected to Be Largest Ever**

This year's American Medical Association clinical meeting in Boston November 29 through December 2 is expected to be the largest ever held.

The postgraduate education meeting, aimed at helping to solve the daily practice problems of the family physician, is expected to be attended by some 4,000 persons, a large increase over last year's meeting. About 200 scientific papers and exhibits have been scheduled for presentation, according to Dr. Thomas G. Hull, secretary of the A.M.A.'s Council on Scientific Assembly.

Meetings will be held in Mechanics Hall and at the Statler Hotel where the House of Delegates, the A.M.A.'s policy-making body, will hold sessions. Papers will be given in three lecture halls,

offering the physician a wide variety of choice in subjects.

This ninth clinical session has been planned with the cooperation of organized medicine throughout all the New England States. Area medical societies have relinquished many meetings this year in order to give more time to the clinical session. General Chairman for the meeting is Dr. Frank P. Foster, and Dr. Theodore L. Badger is program chairman. Both are from Boston.

Among the 100-plus scientific exhibits scheduled will be displays on fractures and deliveries. The obstetrical section will include manikin demonstrations of deliveries. Leading surgeons and obstetricians will be available for individual problem discussions.

Closed circuit television programs, originating in New England Deaconess Hospital, will bring live operations in color to the lecture hall. The program is again being sponsored by the Smith, Kline and French Laboratories of Philadelphia.

An entertainment sidelight of the meeting will be a special concert for registrants by the Boston Symphony on Thursday, December 1.

### **The New Orleans Graduate Medical Assembly**

The annual meeting will be held February 27 to March 1, 1956, with headquarters at the Municipal Auditorium.

## PLACEMENT SERVICE

*The placement service of The Tennessee State Medical Association is designed to assist doctors and communities to get together. Further information and contacts on both physicians and communities are available from the Public Service Department, 322 Doctors Building, Nashville 3, Tennessee.*

### Locations Wanted

A 25 year old, Protestant, married, graduate University of Tennessee. Desires General Practice with minor surgery in small town near Knoxville. Will consider others. Available July 1, 1956. LW-167

A 33 year old, married physician, Hebrew, graduate University of Maryland, Diplomate American Board of Dermatology & Syphilology. Priority IV. Available immediately. LW-168

A 33 year old, married physician, Protestant, graduate Northwestern University, priority IV, Desires Internal medicine, clinic, assistant or associate. Available any time. LW-169

A 31 year old, married physician, Episcopalian, graduate University of Pennsylvania. Present practice limited to hospital patients. Desires to enter private practice. Specialty Internal Medicine. Available now. LW-171

A 44 year old, married physician, Jewish, graduate University of Illinois, Board certificate held in Ophthalmology. Priority 4F. Desires associate or Solo. Available immediately. LW-176

A 45 year old married physician, Protestant, graduate Columbia (P & S) New York City. Certified American Board of Urology. Desires clinic, assistant or associate. LW-188

A married physician, Protestant, graduate University of Arkansas. Board eligible in psychiatry, but interested in returning to general practice. Draft exempt. Available now. LW-190

A 31 year old married physician, Protestant, graduate Medical College of Virginia. Eligible for American Board of Internal Medicine. Priority IV. Prefers clinic, will consider assistant or associate. Desires East Tennessee. Available January 1, 1956. LW-197

A 39 year old, married physician, Protestant, Graduate University of Tennessee. Presently in U.S. Navy. Desires general practice in community 2 to 5 thousand. Available February 1, 1956. LW-198

A 37 year old, married physician, Protestant, Graduate University of Tennessee. At present in U.S. Army Medical Corps. Desires general practice in community 2,000 and above. Would consider clinic, assistant or associate. Available March, 1956. LW-199

A 39 year old, married physician, Protestant, Graduate University of Illinois. Internal Medicine Residency completed June 30, 1955. Priority IV. Now taking a residency in Gastroenterology until June 30, 1956. Desires community 20,000 to 25,000 in Middle or West Tennessee. Available July 1, 1956. LW-200

A 33 year old, married physician, Protestant, graduate University of Tennessee. Three years residency training in Internal Medicine. Desires full or part-time association in Memphis. LW-201

A 26 year old, single physician, graduate University of Tennessee. Completing military service. Desires general practice. Clinic or Industrial. Available April, 1956. LW-202

A 32 year old, married physician, Protestant, graduate University of Tennessee. 3½ years residency training. Three years approved psychiatric training. Priority IV. Desires psychiatry in clinic, assistant or associate, or part-time industrial. Available January, 1956. LW-203

A 31 year old, married physician, Protestant, Graduate University of Tennessee. Board eligible in Pediatrics. Priority 4. Desires community 20,000 up. Clinic, assistant or associate. Desires West Tennessee. Available now. LW-204

### Physician Wanted

Excellent Opportunity: Physician to take over general practice, with surgery if desired, in town of 4,500 population. Located northwest Tennessee. Leaving for residency. PW-61

Town of 4-5 thousand population, located in East Tennessee, desires general practitioner. Community cooperation promised in securing house, and will re-do building to suit physician for office space. PW-64

Wanted: An associate, in general practice in clinic with two other physicians. Middle Tennessee. Will guarantee a generous income from the start. Do not need to buy any equipment. PW-65

Small town in West Tennessee desires general practitioner. No other physician in community. All efforts will be made to cooperate with physician in setting up his practice. PW-67

Town in East Tennessee with trade area of 10,000-12,000. Desires general practitioner. One other physician in town. 16 bed hospital in town. Adequate office equipment is already available. PW-68

East Tennessee community desires general practitioner. Population of town 833, of trade area 10,000. One other physician in community with a limited practice. Plans are being made to build a clinic in the near future. Considerable medical equipment has been purchased and is in storage. PW-69

Young man wanted for general practice in East Tennessee City. Salary. PW-70



# Journal of the Tennessee State Medical Association

OWNED AND PUBLISHED BY THE ASSOCIATION

Volume 48

DECEMBER, 1955

Number 12

*The use of the homograft has permitted the removal of segments of diseased arteries in conditions which only a few years ago doomed the patient to death.*

## CLINICAL EXPERIENCE WITH ARTERIAL HOMOGRAFTS STERILIZED WITH ETHYLENE OXIDE AND PRESERVED BY THE FREEZE-DRY METHOD\*

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Replacement of diseased vascular segments with preserved homologous vessels has achieved increasing importance recently. The feasibility of homologous vascular transplantation has been known for several decades.<sup>4</sup> The clinical application of this fact was neglected until Gross<sup>8</sup> emphasized its practicality a few years ago. The availability of vascular homografts has been assured by the establishment of "artery banks." Marrangoni and Cecchini<sup>10</sup> introduced lyophilization or "freeze-drying" as a method of preservation. The introduction of ethylene oxide sterilization by Hufnagel<sup>9</sup> has circumvented the difficulties of obtaining arterial segments with aseptic technique at autopsy.

With slight modification of these methods of sterilization and preservation a vascular bank was established at Vanderbilt University Hospital in early 1954.<sup>5</sup> Sterilization of even the most heavily contaminated vessel may be easily accomplished by exposure to ethylene oxide for thirty minutes. The vessel is then rapidly frozen at  $-76^{\circ}\text{C}$ . and, while still frozen, is subjected to vacuum drying. The vacuum effectively sublimates the water from the ice crystals. The sterile vessel, frozen and dried, is then permitted to reach room temperature and may easily be stored under vacuum for periods well over two years.<sup>11</sup> Restoration of the dessicated vessel to an essentially normal condi-

tion is quickly accomplished by immersion in saline for 20 to 30 minutes. Preservation of arterial grafts by this method is relatively simple and prolonged storage is facilitated.

The successful use of vascular grafts preserved by freeze-drying has been fairly extensively established<sup>1, 2, 3, 6, 10, 11</sup>. Aortic or arterial grafts have been successfully used in a variety of conditions, chiefly in restoration of arterial continuity after excision of aneurysms, coarctate segments, arteriovenous fistulae and thrombosed segments of major arteries. The indications for excision of segmentally diseased vessels and replacement by homografts are increasing. The clinical experience with 27 patients at the Vanderbilt University hospital in utilizing vascular homografts sterilized with ethylene oxide and preserved by lyophilization provides the basis for this report.

### Case Reports

1. T. F. D. (VUH 229401). This 64 year old white man was first seen on Dec. 16, 1953, with a pulsating abdominal mass.

A translumbar aortogram revealed an abdominal aortic aneurysm. The Kahn test was negative. Exploration revealed a fusiform aneurysm which seemed to arise above the renal arteries. A graft was not available and resectability seemed doubtful. Following discharge from the hospital the abdominal mass gradually enlarged.

When an arterial graft was available the patient was readmitted to the hospital. On April 21, 1954 through a left thoraco-abdominal incision, the aneurysm was excised. It arose 2 cm. below the renal arteries and extended down to involve the common iliac arteries. A freeze-dried aortic homograft was interpolated. Strong pedal pulses were palpable soon after the operation.

The patient did well until the third postopera-

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tive day when he suddenly became restless, cyanotic and the blood pressure dropped. Tracheostomy was performed because of increasing bronchial secretions. Two days later he developed a slight left hemiparesis and it became apparent that he had had a mild cerebrovascular accident. He gradually improved and was discharged on the tenth postoperative day with minimal weakness of the left arm. In July, 1954, the patient developed homologous serum jaundice, recovery from which was uneventful. He has since returned to full activity and when last seen in May, 1955, was in excellent condition.

2. P. W. (VUH 233022), a 41 year old white woman, was admitted on April 26, 1954, with signs and symptoms of superior vena caval obstruction. The superior mediastinum was explored the following day and the superior vena cava was found to be occluded by dense scar tissue. A freeze-dried arterial homograft was anastomosed to the right innominate vein above the obstruction and superior vena cava below the obstruction. Microscopic studies of the scar tissue revealed nonspecific inflammatory changes. Immediately following the operation the swelling of the patient's arm and neck remained unchanged and the venous pressure in the upper extremities was not reduced. However, she gradually improved. Six weeks after operation her arms and neck were free of edema, and venous distension was greatly decreased. Symptomatic improvement was most notable. When last seen in June, 1955, she was doing well. Venous distension was noted in the supine position only.

3. F. L. S. (VUH 233944). This 61 year old white man was admitted on May 17, 1954, with a pulsating abdominal mass noted three weeks previously.

There was a 14 by 8 cm. pulsating fusiform mass extending from the epigastrium to just above the symphysis pubis. Pedal pulses were present bilaterally except for the dorsalis pedis on the right. The Kahn test was negative.

May 19, 1954, through a left thoraco-abdominal incision a fusiform abdominal aortic aneurysm was excised. The aneurysm arose just below the renal arteries and extended down to the bifurcation of the aorta. A freeze-dried aortic homograft was interpolated.

Immediately following surgery the patient developed tenderness in the left calf. Strong pedal pulses were present on the right but none could be felt on the left side. Heparin therapy was started on the second postoperative day because of persistent tenderness in the calf. On the sixth postoperative day Dicumarol was substituted for heparin. He was discharged on the tenth postoperative day to continue Dicumarol therapy. No pedal pulses were palpable on the left at the time of discharge. The patient resumed full activity by October of 1954, and follow-up in June, 1955, revealed that he continues to do well.

4. R. B. H. (VUH 233921). This 66 year old white man was admitted with abdominal pain,

extreme shortness of breath and generalized weakness of six months duration. He was known to have had severe bronchitis for many years.

There was a pulsatile, fusiform, abdominal mass to the left of the umbilicus measuring 10 by 6 cm. The Kahn test was negative. The patient had several episodes of acute respiratory distress prior to operation.

On May 25, 1954, through a left thoraco-abdominal incision an abdominal aortic aneurysm arising just below the renal arteries and extending down to the common iliac arteries was excised. A freeze-dried aortic homograft was interpolated. Bilateral lumbar sympathectomy and tracheostomy were performed. Pedal pulses were symmetrically present after operation.

On the third postoperative day the patient developed copious serous drainage from his chest wound and progressive respiratory distress. On the tenth postoperative day he expired. Postmortem examination revealed acute suppurative bronchopneumonia. The arterial homograft was in good condition. The lumen was patent and there was no evidence of thrombosis.

5. R. D. (VUH 234180), a 26 year old white man, came with a 10 year history of hypertension. Drug therapy had been unsuccessful in altering the blood pressure and he had been referred to the Neurosurgical Service as a candidate for thoracolumbar sympathectomy.

However, examination revealed very weak pulsations in the femoral arteries. Blood pressure in the arms was 170/90 and in the legs 20/0. Parascapular arterial pulsations were easily palpable. A harsh aortic systolic murmur was audible. Chest X-rays revealed notching of the ribs. Diagnosis of coarctation of the aorta was made and at thoracotomy on May 27, 1954, a 5 cm. coarctate segment of the aorta was excised. A freeze-dried arterial homograft was used to bridge the defect. The postoperative course was smooth. Blood pressure stabilized at 140/80 in his arms and 120/100 in his legs. He was discharged symptom-free on the 11th postoperative day. He has continued to do well and has returned to work.

6. C. H. H. (VUH 195049). This 60 year old white man was admitted on May 27, 1954, with a pulsatile abdominal mass noted six days before admission. His past history revealed mild bronchiectasis and recurrent bouts of diverticulitis.

There was generalized arteriosclerosis with electrocardiographic evidence of left bundle branch block. Pedal pulses were present bilaterally. The Kahn test was negative.

On May 29, through a left thoracoabdominal incision, an abdominal aortic aneurysm arising 3 cm. below the renal arteries and extending down to involve the right common iliac artery was excised. A small portion of the aneurysmal sac which was densely adherent to the vena cava was not excised. A freeze-dried aortic homograft was inserted using the external iliac artery for the inferior anastomosis on the right. There were numerous diverticula of the sigmoid colon and a



three inch segment of sigmoid was indurated and fibrotic. Bilateral lumbar sympathectomy was performed.

The postoperative course was benign except for one episode of atelectasis and a transient azotemia. He was discharged on the fourteenth postoperative day. He was readmitted on June 24, 1954, having abdominal pain, fever and a large abdominal mass which proved to be an abscess. Incision and drainage was carried out. He was discharged on the fifth postoperative day with a draining sinus which persisted.

In March, 1955, a barium enema revealed almost complete obstruction in the sigmoid colon. On March 7, left-sided colectomy was done for obstruction due to diverticulitis, and the persistent draining sinus was excised. The aortic graft was found to be in good condition, pliable and without evidence of dilatation. The postoperative course was uneventful. He was returned to full activity and remains in good condition.

7. C. M. (VUH 234521), a 38 year old white man, entered the hospital on June 3, 1954, with a segmental occlusion of the right common iliac artery, as demonstrated by aortography. He gave a history of pain of three months duration in the right leg and right hip on exercise. The arterial pulses in the right leg were all present though markedly decreased in amplitude. On June 7, he was explored and the right common iliac artery was found to be occluded with atheromatous material for a distance of 5 cm. This portion was excised and replaced with a freeze-dried arterial homograft. Strong pulsations in the vessels of the right leg were present immediately following operation. He was discharged on the ninth postoperative day and has continued to do well in the 12 months since operation.

8. P. D. (VUH 223285), a 41 year old colored man, entered on June 21, 1954, with an arteriovenous fistula in the left thigh that had developed following a gunshot wound 28 years previously.

At exploration there were fistulae between the left profunda femoris artery and vein and the left superficial femoral artery and vein. In repairing the superficial femoral fistula a small segment of the superficial femoral artery was excised and replaced with a freeze-dried arterial homograft. The profunda femoris artery was repaired by lateral suture following excision of its fistula. The postoperative course was uneventful and the patient was discharged on the eighth postoperative day. There were excellent pulses in the leg and the patient had returned to full activity when last seen 10 months after operation.

9. J. B. (NGH 12568). This 27 year old white man entered the Nashville General Hospital on Sept. 2, 1954, with a gunshot wound of his right axillary region. The right radial pulse was absent. The arm and hand were cold and cyanotic.

At exploration a 3 cm. segment of the axillary artery was found to be badly damaged. This segment was excised and a freeze-dried arterial homograft used to bridge the defect. The radial

pulse remained absent in the immediate postoperative period, but the color and temperature of the arm and hand improved immediately and remained good. Nine months later he was doing well and had strong radial pulse.

10. C. T. R. (VUH 238003), a 71 year old white man, was admitted on Sept. 12, 1954, as an emergency because of auricular fibrillation, aneurysm of the right popliteal artery and acute arterial insufficiency of the right lower leg. The leg and foot were cold, blue and pulseless.

The aneurysm was excised, a thrombus was extracted from the distal artery, and a freeze-dried arterial homograft was interpolated. However, the right foot remained cold and blue. A supracondylar amputation had to be performed. The homograft was patent and free of thrombus, but the distal artery was completely occluded with propagated thrombus. Three days later he developed sudden respiratory distress, chest pain and died. Post-mortem examination revealed a massive pulmonary embolus.

11. C. C. (VUH 238166), a 59 year old white man, was admitted on Sept. 17, 1954, with a history of intermittent claudication in the left calf for the past 8 months.

In the left popliteal space was a 5 by 6 cm. pulsatile mass. No pulses could be felt in the left foot. In the right foot arterial pulsations were present and strong. The patient was known to have had diabetes for 10 years.

On Sept. 20 an aneurysm of the popliteal artery was excised and a freeze-dried arterial graft interpolated. A left lumbar sympathectomy was done. Postoperatively good pedal pulses were present on the left and the patient could walk without pain by the tenth postoperative day when he was discharged. He continues to do well. On his last visit in May, 1955, moderate dilatation of the right popliteal artery was noted. The left leg was in excellent condition with no detectable dilatation of the grafted artery.

12. C. M. (VUH 238307). This 81 year old white woman entered the hospital on Sept. 23, 1954, in shock following the onset of sudden acute abdominal pain 30 minutes before. She was known to have had an abdominal aortic aneurysm for at least 18 months.

She was transfused and at emergency laparotomy a ruptured abdominal aneurysm was found. It arose just below the renal arteries and extended down to the aortic bifurcation. The aneurysm was excised along with the common iliac artery on the right side which was occluded with calcific arteriosclerotic material. A freeze-dried aortic homograft was inserted using the right external iliac for the inferior anastomosis on that side.

In the immediate postoperative period the patient relapsed into shock, and in spite of massive transfusion, died 10 hours later. At post-mortem examination the graft was in good condition, patent, and free of thrombus. The peritoneal cavity and retroperitoneal space were filled with blood



and there was a tear in a large tributary of the left renal vein.

13. C. W. H. (VUH 233402), an 8 year old white boy, was admitted on Oct. 1, 1954, because of hypertrophy of the left leg and tremendous dilatation of the veins of that extremity. A venogram revealed a block of the iliac vein at the level of the inguinal ligament. An aortogram and arteriogram were not remarkable.

At exploration he was found to have almost complete stenosis of his left common iliac, external iliac, and hypogastric veins. The lumen was less than a millimeter in diameter. Three segments of arterial homograft were sutured together to provide a vessel of about 15 cm. in length to bridge the space between the common iliac vein and femoral vein. End to side anastomoses were performed above and below. The postoperative course was smooth, and at the end of one week there was an easily measurable decrease in the size of the left leg. Since discharge from the hospital the relative size of the legs has not changed and the patient has enjoyed full activity in the 9 months since operation.

14. W. B. J. (VUH 238656). This 65 year old white man entered the hospital with a 7 week history of mild abdominal and lumbar back pain. There was a 6 by 8 cm. pusatile mass to the left of the umbilicus. Strong pedal pulses were present bilaterally. The Kahn test was negative. A translumbar aortogram revealed a fusiform abdominal aortic aneurysm with aneurysmal changes extending down into the left common iliac artery.

On Oct. 15, 1954, through a long midline incision the aneurysm was excised. It arose 3 cm. below the renal arteries and extended down to involve the left common iliac artery. A freeze-dried aortic homograft was inserted using the left external iliac artery for the lower anastomosis on that side. Ten milligrams of heparin solution were injected into each iliac artery at the time of occlusion. Bilateral lumbar sympathectomy was done.

Strong pedal artery pulsations were present following operation. Adynamic ileus was troublesome for the first few days, but the postoperative course was smooth thereafter. The patient was discharged on the fourteenth postoperative day. He has continued to do well in the 9 months since operation.

15. P. B. C. (VUH 239814), a 60 year old white man, was admitted on Nov. 22, 1954, with an 8 by 10 cm. pulsatile abdominal mass just to the left of the umbilicus. The Kahn test was negative.

Four days later, through an abdominal incision, an aortic aneurysm, arising 3 cm. below the renal arteries and extending down to involve the left common iliac artery, was excised and a freeze-dried aortic homograft interpolated. The external iliac artery was used for the lower anastomosis on the left. A bilateral lumbar sympathectomy was done. Ten milligrams of heparin were injected into each of the iliac arteries at the time of occlusion.

Strong pedal pulses were palpable immediately following surgery. There was a transient oliguria for the first 48 hours but his serum NPN remained normal. The postoperative course was completely benign and the patient was discharged on the twelfth postoperative day. In February, 1955, the patient returned to work and has continued to do well.

16. R. L. K. (VUH 241644). This 38 year old white man was admitted on Jan. 31, 1955. Previous study had revealed a long saccular aneurysm of the thoracic aorta

On Feb. 4, he was anesthetized and placed in a tub of ice water to produce hypothermia. (This was done in an attempt to extend the tolerance time of complete aortic occlusion.) When his rectal temperature reached 31 C. he was placed on the operating table and the chest was opened through both the fourth and eighth intercostal spaces. A fusiform aneurysm extending from a point 3 cm. below the left subclavian artery down to a point 5 cm. above the posterior diaphragmatic hiatus was mobilized and excised after clamping the aorta above and below. A freeze-dried aortic homograft about 16 cm. in length was used to bridge the defect. The thoracic aorta had been clamped 45 minutes by the time the anastomoses were completed.

Rectal temperature had fallen to a low of 26 C. during the operation. Following closure of the chest the patient lapsed into shock and a large amount of blood drained from his chest tube. The chest was immediately reopened and the superior anastomosis was found to be leaking posteriorly. It could not be determined whether a suture had broken or whether the arteriosclerotic aorta had fractured above the suture line. The leak was closed by suture.

When the patient reacted from anesthesia he was found to have a paraplegia which persisted. Urinary output was less than 100 cc. daily for the next 5 days and serum NPN rose to 122 mg. per cent. Respirations became labored on the fifth postoperative day and the patient expired. Permission for post-mortem examination could not be obtained.

17. M. M. (VUH 243244), a 42 year old white man, was admitted on Mar. 10, 1955, with a history of a gunshot wound in the left infraclavicular region 20 years before. There was tremendous enlargement of the left upper arm with numerous dilated vascular pathways. A strong thrill and loud bruit were present in the left supraclavicular fossa.

At exploration he was found to have a large fistula between his subclavian artery and vein. The fistulous tract and artery in that region were excised and the arterial defect bridged with a freeze-dried arterial homograft. The opening in the vein was repaired. It had been necessary to open the left chest to control bleeding during operation and in the postoperative period he developed a left hemothorax which clotted and eventually required

decortication of the left lung. His recovery following this was uneventful.

18. *J. S. D. (VA 54876)*. This 58 year old white man was admitted to the Thayer VA Hospital, Nashville, on Mar. 10, 1955, with a history of abdominal pain for several years and a pulsatile midabdominal mass. He was known to have cirrhosis of the liver and portal hypertension for many years, and in 1951 had undergone a portocaval shunt with good results.

Bilateral pedal pulses were present but were markedly weaker on the right side. The Kahn test was negative. An aortogram performed elsewhere revealed a fusiform abdominal aortic aneurysm.

On Mar. 24, through a long midline incision, the aneurysm was excised and a freeze-dried aortic homograft interpolated. The aneurysm extended from 4 cm. below the renal artery to the bifurcation of the aorta. Both common iliac arteries were involved in severe arteriosclerotic process, as was the hypogastric artery on the left. The external iliac and hypogastric arteries were anastomosed to the graft on the right. On the left the hypogastric artery was ligated and the external iliac anastomosed to the graft. A total of 10 mg. of heparin in solution were injected into the distal vessels.

Postoperatively the right leg was found to be cold, blue and pulseless. The patient was returned to the operating room and a long thrombus removed from the right femoral artery. Satisfactory back bleeding was never obtained from the distal vessel. Gangrene of the right lower leg progressed and on April 1 a right supracondylar amputation was performed. Following this his postoperative course was uneventful. When last seen in June, 1955, the patient had continued to do well.

19. *J. H. H. (VUH 144733)*, a 34 year old white man, was first admitted in 1945 with an arteriovenous fistula of the left femoral artery due to a gunshot wound 15 years previously. The femoral vein was ligated proximally and distally, following which the defect in the artery was closed. After this the leg decreased in size and the patient did well until 1954 when he was found to have a pulsatile mass in the left thigh.

He was readmitted on March 31, 1955, with a 6 by 10 cm. pulsatile mass in Hunter's canal on the left. An aortogram revealed a large fusiform aneurysm of the left femoral artery with marked dilatation and tortuosity of the left iliac arteries.

On April 2, the aneurysm was excised and a freeze-dried aortic homograft interpolated. A lumen of aortic proportions was required for the proximal anastomosis between the graft and the dilated femoral artery and the diameter of the graft had to be tailored down in cone-like fashion for the distal anastomosis. Ten milligrams of heparin in solution were injected into the distal artery prior to occlusion.

The left leg was cool and pedal pulses absent in the immediate postoperative period. Paraver-

tebral blocks were done, following which the leg became warm and strong pedal pulses were palpable. He was discharged on the eighth postoperative day. When seen in June, 1955, he had continued to do well and had returned to work.

20. *W. H. B. (VUH 242927)*. This 36 year old white man was admitted on April 3, 1955, having previously undergone total laryngectomy and left radical neck dissection for carcinoma of the larynx. Examination revealed a wound infection and a pulsatile mass in the medial portion of the cervical wound.

On exploration an aneurysm of the internal carotid artery was found which extended from the site of the bifurcation of the common carotid to the base of the skull. The external carotid artery had been removed at the time of the neck dissection. The aneurysm was excised and a freeze-dried arterial homograft used to bridge the defect. The upper anastomosis was technically difficult because of the extremely short and friable cuff of carotid available above the aneurysm at the base of the skull.

On the second postoperative day he developed a right hemiplegia. Recovery from his hemiplegia has been slow. He now has a local recurrence of his carcinoma and is receiving radiation therapy. Arterial pulsation cannot be felt in the region of the graft.

21. *J. B. H. (VUH 231940)*, a 53 year old white man, was admitted with a 6 year history of intermittent claudication. Femoral pulses were weak and no pulse could be felt below the femoral arteries. An aortogram revealed segmental occlusion of the left femoral artery down to the level of the popliteal artery.

On March 23, 1955, a thrombo-endarterectomy was done, and a 6 cm. segment of the femoral artery excised and replaced with a freeze-dried homograft. Paravertebral blocks were performed in the immediate postoperative period. There was an increase in temperature of the left leg. He was discharged on the eighth postoperative day. The patient has done well, and in June, 1955, could walk five blocks without difficulty.

22. *F. J. R. (VA 55008)*, a 68 year old white man, was admitted to the Thayer VA Hospital with a known abdominal aortic aneurysm. He had pulmonary emphysema and arteriosclerotic heart disease with a history of myocardial infarction. The Khan test was negative. Because of severe abdominal pain, exploration was advised.

On April 7, 1955, through a long midline incision the aneurysm was exposed, and in the dissection a large abscess cavity overlying the aneurysm was entered. This was found to represent a self-limited retroperitoneal rupture of the aneurysm which had become infected. The aneurysm arose about 2 cm. below the renal arteries and extended down to involve both common iliac arteries. The aneurysm was excised, the contents of the abscess cavity were evacuated and a freeze-dried aortic graft was interpolated. Bilateral lumbar symp-



thectomy was performed. Strong femoral pulses were present immediately postoperatively.

On the sixth postoperative day the patient suddenly went into shock and passed a large volume of blood by rectum. At laparotomy he was found to have a leak in the right common iliac portion of his graft with extensive hemoperitoneum. This was controlled with massive blood replacement but the graft was so friable in its central portion that it would not hold sutures. The entire graft was removed and another freeze-dried aortic graft inserted. Further exploration revealed a perforation in the posterior wall of the cecum which was closed.

The postoperative course was stormy and complicated by lower nephron syndrome. Pulses in the lower extremities, however, remained strong and symmetrical. Two weeks after operation he developed septic thrombophlebitis at the site of a polyethylene catheter used for venoclysis. The course thereafter was septic and steadily downhill with staphylococcal pyemia and he died on May 6. At post-mortem examination he was found to have staphylococcal septicemia, multiple myocardial and pulmonary abscesses, and pyelonephritis. The aortic graft was intact, patent, and in good condition.

23. *J. T. F. (VUH 243745)*. This 63 year old white man was admitted to the hospital with a 6 year history of intermittent claudication, impotence, and pain in the gluteal region. No arterial pulsations were palpable below the umbilicus. Aortogram revealed a complete occlusion of the terminal aorta.

At laparotomy on April 21, 1955, the occlusive process was found to extend down to the bifurcation of the iliac arteries. The occluded segment of the aorta and iliac arteries was excised and a freeze-dried aortic homograft was interpolated. Femoral pulses were palpable immediately postoperatively and pedal pulses appeared in the next few days. He was discharged on the eleventh postoperative day and has been greatly improved by operation. In June, 1955, he remains in good health.

24. *R. B. P. (VUH 244552)*, a 63 year old white man, entered with severe abdominal pain and a large pulsatile abdominal mass. Past history re-

vealed arteriosclerotic heart disease with three myocardial infarctions. The abdominal pain had become so severe that the patient elected surgical intervention realizing the grave risk. The Kahn test was negative.

Exploration on April 25, 1955, revealed a large aortic aneurysm arising immediately below the renal arteries and extending down into both common iliac arteries. The aorta was clamped above the renal arteries for 34 minutes during the excision of the aneurysm. The posterior wall of the aneurysm was found to contain lumbar spine and paravertebral muscles. A freeze-dried aortic homograft was sutured in place.

Bilateral pedal pulses were palpable in the immediate postoperative period, but later in the day the right leg was found to be cold, pulseless and blue. A femoral arterial embolectomy was carried out. However, occlusion below the popliteal artery could not be relieved. Otherwise, the patient did well until the fourth postoperative day when he developed sudden precordial pain and died quickly. Post-mortem examination revealed massive thrombosis of the left coronary artery. The aortic graft was patent and in good condition.

25. *D. L. W. (VUH 246259)*. This 50 year old white man was admitted on June 16, 1955, with intermittent claudication of 3 years duration. A year and a half prior to admission an aortogram had revealed occlusion of the terminal aorta. A bilateral lumbar sympathectomy at that time gave temporary improvement. Claudication increased in severity, and loss of libido was noted. Weak arterial pulsations were palpable in the left leg and absent in the right leg.

On June 18, the terminal aorta was resected and a freeze-dried aortic homograft interpolated. Bilateral pedal pulses were palpable in the immediate postoperative period. The patient has done well.

26. *L. V. N. (VUH 245351)*. This 58 year old white woman was admitted with a 4 year history of intermittent claudication in the left leg and hip. Arterial pulsations were absent in the left leg and present in the right leg. An aortogram revealed complete blockage of the left common iliac artery and partial occlusion of the terminal aorta.

Table 2

SUMMARY OF DISEASES TREATED AND RESULTS OBTAINED WITH HOMOGRAFTS

| Disease Process                                      | Number of Cases | Living | Dead |
|--|-----------------|--------|------|
| Abdominal Aortic Aneurysm                            | 11              | 7      | 4    |
| Thrombosis of Terminal Aorta<br>(Leriche's Syndrome) | 3               | 3      | 0    |
| Aneurysm of Peripheral Artery                        | 4               | 3      | 1    |
| Segmental Occlusion of Peripheral Artery             | 2               | 2      | 0    |
| Arterio-Venous Fistula                               | 2               | 2      | 0    |
| Venous Obstruction                                   | 2               | 2      | 0    |
| Thoracic Aortic Aneurysm                             | 1               | 0      | 1    |
| Coarctation of Aorta                                 | 1               | 1      | 0    |
| Gunshot wound of Peripheral Artery                   | 1               | 1      | 0    |
| Totals   | 27              | 21     | 6    |



On June 2, 1955, the terminal aorta and part of the common iliac arteries were resected and a freeze-dried aortic graft interpolated. A bilateral lumbar sympathectomy was performed. Bilateral pedal pulses were palpable in the immediate post-operative period. The patient was discharged on the twelfth postoperative day. She has continued to do well.

27. M. P. (VUH 56205), a 59 year old white man, was admitted with a 6 year history of a gradually enlarging abdominal mass. Physical examination revealed a 10 by 15 cm. pulsating abdominal mass. The dorsalis pedis pulse was absent in the right foot. The pulsation in the right femoral artery was weaker than that on the left side. The Kahn test was negative.

On June 27, 1955, an abdominal aortic aneurysm was resected and a freeze-dried aortic homograft interpolated. The aneurysm extended from 2 cm. below the renal arteries down to involve the right common iliac artery. A bilateral lumbar sympathectomy was done. The patient had a smooth postoperative period and continues to do well.

### Discussion

Since the establishment of an arterial bank over a year ago, arterial homografts have been used on 27 occasions. The experience with these patients has been generally gratifying. The vascular segments have been obtained at autopsy, sterilized with ethylene oxide, and preserved by lyophilization. They have been readily available in a variety of sizes to meet any particular clinical demand. Homografts ranging from 2 to 16 centimeters in length have been used. Thirteen grafts of the aortic bifurcation have been implanted. After reconstitution the preserved vessels resemble normal arteries in pliability, elasticity, and tensile strength. It is important to emphasize that vascular segments preserved by lyophilization are completely nonviable. When implanted into a recipient the preserved vessel serves only as a scaffolding for the ingrowth of the host's fibrous tissue and endothelium.

Hufnagel has advocated ethylene oxide as a sterilizing agent for vascular segments.<sup>9</sup> The substance is a volatile, explosive liquid which boils at 10 C. and some caution is necessary in its use. The efficacy of ethylene oxide as a sterilizing agent is confirmed by our experience. In 25 autopsies major vessels have been procured without sterile technic for use as grafts. The vascular segments so obtained have been made sterile

in each instance by immersion in liquid ethylene oxide for 30 minutes. In a series of 20 animals the vessels were intentionally subjected to heavy bacterial contamination. After sterilization with ethylene oxide the vessels demonstrated no bacterial or fungus growth on culture. We have been unable to detect any gross or microscopic structural alteration in vessels immersed in ethylene oxide for 30 minutes.

In each case the grafting procedure has been accomplished readily by excision of the diseased arterial segment and insertion of the graft with simple end to end suture anastomoses between the vessels of the host and the graft. Lyophilized, ethylene oxide sterilized grafts have proven satisfactory as substitutes for damaged or diseased arterial segments. No complication attributable to the graft per se has occurred with the exception of the case in which a graft underwent necrosis and leaked when it was employed to replace an abdominal aneurysm overlain by a retroperitoneal abscess. In none of the grafts used to date has there been any evidence of arterial thrombosis or aneurysmal dilatation.

The deaths in this series have occurred in patients who were extremely poor surgical risks. In these patients surgical intervention was employed either as an emergency procedure for rupture or thrombosis of an aneurysm, or for the relief of intractable pain. In each case the graft was in good condition at the time of autopsy without evidence of thrombosis or leakage at suture lines. In one patient, laparotomy for another disease process one year after implantation of an abdominal aortic graft revealed the homograft to be in excellent condition. The follow-up period in patients who have had arterial grafting ranges from 1 to 16 months, and 16 patients have been followed for over 8 months. (Table 1.)

The indications for replacement of diseased vascular segments with homografts continue to increase. In table 2 are listed the variety of disease processes for which grafts were used in this series. Only a few years ago the only treatment available in many of these conditions was proximal ligation of the artery. With the advent of grafting procedures it has become possible

Table I  
FINDINGS AND SURGICAL PROCEDURES IN PATIENTS WITH ARTERIAL GRAFTING PROCEDURES

|          | AGE<br>SEX | DIAGNOSIS  | COMPLICATIONS  | PREOPERATIVE<br>CONDITION | OPERATION<br>AND DATE | REMARKS<br>FOLLOW-UP  |
|----------|------------|--|--|---------------------------|-----------------------|---|
| 1<br>TD  | 64<br>M    | Arteriosclerotic aneurysm of abdominal aorta                               |  |                           | <br>4-12-54           | Mild cerebrovascular accident post operatively. Developed homologous serum jaundice 3 mos after operation. Recovery uneventful, now doing well. |
| 2<br>DW  | 41<br>F    | Superior vena caval obstruction  |  |                           | <br>4-27-54           | No immediate change. Later obtained almost complete alleviation.  |
| 3<br>FS  | 61<br>M    | Arteriosclerotic aneurysm of abdominal aorta                               |  |                           | <br>5-14-54           | Post operative thrombophlebitis. Now doing well with no limitation of activity.   |
| 4<br>BH  | 66<br>M    | Arteriosclerotic aneurysm of abdominal aorta                               | Severe bronchitis  |                           | <br>5-25-54           | Died on tenth post-operative day of acute suppurative bronchopneumonia. Aortic graft patent.  |
| 5<br>RO  | 28<br>M    | Coarctation of aorta   |  |                           | <br>5-27-54           | Smooth course. Now in good health.  |
| 6<br>CH  | 60<br>M    | Arteriosclerotic aneurysm of abdominal aorta                               | Mild bronchiectasis.<br>Recurrent diverticulitis.<br>Left bundle branch block. |                           | <br>5-29-54           | Drainage of peritoneal abscess 1 month post operatively. Resection of sigmoid colon for diverticulitis 1 year later. Now doing well.            |
| 7<br>CM  | 38<br>M    | Segmental occlusion of right common iliac artery                           |  |                           | <br>6-3-54            | Uncomplicated course. Excellent result.   |
|          | AGE<br>SEX | DIAGNOSIS  | COMPLICATIONS  | PREOPERATIVE<br>CONDITION | OPERATION<br>AND DATE | REMARKS<br>FOLLOW-UP  |
| 8<br>PD  | 41<br>M    | Arterio-venous fistula of left femoral vessels                             |  |                           | <br>6-24-54           | Doing well one year later.  |
| 9<br>JB  | 28<br>M    | Gunshot wound of right axillary artery                                     |  |                           | <br>9-3-54            | Good distal pulses 10 months later.   |
| 10<br>CR | 71<br>M    | Arteriosclerotic aneurysm of right popliteal artery with distal thrombosis | Auricular fibrillation   |                           | <br>9-12-54           | Gangrene developed necessitating supra condylar amputation. Died 10 postoperative day pulmonary embolism.                                       |
| 11<br>J  | 59<br>M    | Arteriosclerotic aneurysm of left popliteal artery                         |  |                           | <br>9-18-54           | Excellent result. Claudication completely gone.   |
| 12<br>CM | 81<br>F    | Ruptured arteriosclerotic aneurysm of abdominal aorta                      |  |                           | <br>9-23-54           | Died in shock 10 hours post-operatively.  |
| 13<br>WH | 8<br>M     | Atresia of the iliac veins   |  |                           | <br>10-6-54           | Continuing decrease in size of leg.   |
| 14<br>WJ | 65<br>M    | Arteriosclerotic aneurysm of abdominal aorta                               |  |                           | <br>10-15-54          | Excellent course. No limitation.  |

Table 1 (Continued)

| AGE<br>SEX     | DIAGNOSIS   | COMPLICATIONS  | PREOPERATIVE<br>CONDITION | OPERATION<br>AND DATE | REMARKS<br>FOLLOW-UP  |
|----------------|---|--|---------------------------|-----------------------|---|
| 15<br>PC<br>M  | 60<br>Arteriosclerotic aneurysm of abdominal aorta  |  |                           | <br>11-26-54          | Transient oliguria for 48 hours<br>No limitation at present   |
| 16<br>R K<br>M | 38<br>Arteriosclerotic aneurysm of thoracic aorta   |  |                           | <br>2-4-55            | Developed leak in anastomosis immediately post operatively<br>Paraplegia Died in uremia 5 days post operatively   |
| 17<br>M M<br>M | 42<br>Arteriovenous fistula of subclavian vessels   |  |                           | <br>3-14-55           | Developed hemothorax postoperatively<br>Good result otherwise Now doing well  |
| 18<br>J D<br>M | 58<br>Arteriosclerotic aneurysm of abdominal aorta  | Girrhosis and portal hypertension  |                           | <br>3-24-55           | Developed gangrene of right leg necessitating supracondylar amputation  |
| 19<br>J H<br>M | 34<br>Arteriovenous fistula left femoral artery and vein. In 1945 vein ligated proximally and distally. Returned 1955 with large aneurysm of femoral artery |  |                           | <br>4-1-55            | Doing well  |
| 20<br>W B<br>M | 36<br>Aneurysm left common carotid artery following radical neck dissection with removal external carotid   |  |                           | <br>4-3-55            | Right hemiplegia 2nd PO day, slowly resolving   |
| 21<br>J H<br>M | 53<br>Arteriosclerotic occlusion left femoral artery extending down to popliteal artery   |  |                           | <br>3-23-55           | Thromboendarterectomy relieved occlusion superiorly and vascular graft inferiorly<br>Doing well   |
| AGE<br>SEX     | DIAGNOSIS   | COMPLICATIONS  | PREOPERATIVE<br>CONDITION | OPERATION<br>AND DATE | REMARKS<br>FOLLOW-UP  |
| 22<br>F R<br>M | 36<br>Arteriosclerotic aneurysm of abdominal aorta with self-limited rupture and abscess formation  | Arteriosclerotic heart disease with bundle branch block, duodenal ulcer, pulmonary emphysema |                           | <br>4-7-55            | Re-explored 4-13-55. Right common iliac portion of graft leaking. Graft resected another graft inserted Died 5-6-55. Autopsy revealed multiple lung abscesses, pyelonephrosis, staphylococcal septicemia. |
| 23<br>T F<br>M | 63<br>Arteriosclerotic occlusion of terminal aorta (Leriche's Syndrome)   |  |                           | <br>4-21-55           | Good pulses in lower extremities Doing well   |
| 24<br>R P<br>M | 63<br>Arteriosclerotic aneurysm of abdominal aorta  | Severe myocardial insufficiency<br>Three myocardial infarcts                                 |                           | <br>4-25-55           | Died 4th PO day of coronary thrombosis  |
| 25<br>L V<br>F | 58<br>Arteriosclerotic occlusion of the terminal aorta (Leriche's Syndrome)   |  |                           | <br>6-2-55            | Has done well   |
| 26<br>D W<br>M | 50<br>Arteriosclerotic occlusion of the terminal aorta (Leriche's Syndrome)   |  |                           | <br>6-18-55           | Has done well   |
| 27<br>M P<br>M | 59<br>Arteriosclerotic aneurysm of abdominal aorta  |  |                           | <br>6-27-55           | Doing well  |



to excise the diseased vessel and restore normal circulation.

Almost all aortic aneurysms are caused by either arteriosclerosis or syphilis. Aneurysms due to syphilis occur predominantly in the thoracic aorta.<sup>1</sup> Arteriosclerotic aneurysms tend to occur predominantly in the abdominal aorta, and usually arise below the origin of the renal arteries. They are ordinarily of the fusiform type. Because of their position below the renal arteries, arteriosclerotic aneurysms can usually be excised during occlusion of the aorta and a homograft inserted. The prognosis for patients with untreated arteriosclerotic abdominal aortic aneurysms is slightly better than that for patients with untreated syphilitic aneurysms of the thoracic aorta. Even so, approximately 30 per cent of patients with abdominal aneurysms will die with rupture of the aneurysm within one year following diagnosis unless the aneurysm can be excised.<sup>7</sup>

Aortic homografts of the type used in this study have been used for the replacement of arteriosclerotic abdominal aneurysms in 11 patients. The four deaths in this series constitute a higher mortality rate than that reported in other larger series.<sup>2,3,6</sup> The good results obtained in the survivors of this group emphasize the need for surgical intervention on an elective basis as soon as the presence of the aneurysm is ascertained. Two of the four deaths occurred in patients presenting with ruptured abdominal aortic aneurysms. The attending physician and patient had known that an aneurysm was present for 18 months prior to rupture in each instance and elective operation had been refused. The other two patients were severe cardiorespiratory cripples and operation would have been contraindicated had it not been for intractable pain. In the uncomplicated case, resection of the aneurysm and insertion of an aortic homograft is a relatively easy and safe procedure. (Fig. 1.) Because of the totally unpredictable nature of aortic aneurysms and the very poor prognosis associated with them, we believe that resection is indicated as soon as the diagnosis is made. Symptoms such as pain are late manifestations and are unre-



FIGURE 1. Freeze-dried aortic homograft sutured in place after excision of a large aneurysm of abdominal aorta.

liable in determining the progress of the lesion.

Aneurysms and occluded segments of the peripheral arteries are readily treated by excision and replacement by homograft. Many of these lesions cause little or no difficulty for the patient early in their course. Neglect of a popliteal aneurysm or a segmentally occluded femoral artery, however, often portends the eventual loss of the extremity. Early excision and a homograft can be expected to yield excellent and satisfying results. Detection of occluded segments of peripheral arteries requires special interest and effort. Now that it is known that many of these lesions are amenable to surgical therapy peripheral arteriography is being more widely used. The nature and extent of peripheral vascular occlusions may be delineated accurately by such means, and relief of intermittent claudication with restoration of normal pulses often follows extirpation of diseased segments and replacement by a graft.

The deleterious cardiac effects of an arteriovenous fistula usually makes surgical treatment mandatory. The large volume of

blood shunted through the fistula eventually leads to cardiac failure. Until quite recently the standard treatment of arteriovenous fistula consisted of quadripolar ligation and excision. The availability of arterial homografts has allowed uniform restoration of the artery following excision of the fistula.

The ready availability of vascular segments in an "artery bank" has been an invaluable asset. Sterilization of vessels obtained at autopsy without aseptic methods by means of ethylene oxide and their preservation by the freeze-dry method has proven to be simple and efficient. While vascular segments processed by this technique have been satisfactory, continuing research in newer and different methods is in progress. Nylon, Orlon and other synthetic cloths have been used satisfactorily for vascular replacement in animals and are being used clinically. Seamless cloth tubes and tubes simulating the aortic bifurcation are now available. The question of superiority of an arterial homograft or a tube of synthetic cloth in vascular reconstruction is as yet unsettled. Methods for comparing the efficacy of these types of vascular replacement are objects of current research.

#### Summary

Experience with arterial homografts sterilized with ethylene oxide and preserved by lyophilization has been satisfactory. Homografts have been implanted in 27 patients with a variety of vascular lesions. The results have been generally gratifying. The

indications for excision of locally diseased vascular segments and replacement by homografts are increasing.

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*An old obstetrical legend is questioned. Routine manual examination of the uterus at the end of the third stage of labor apparently is not associated with an increased puerperal morbidity if done by trained persons.*

## ROUTINE MANUAL EXAMINATION OF THE POST-PARTUM UTERUS\*

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Contained in most of the textbooks of obstetrics today, as well as in those of years gone by, is the grave warning of the danger involved in post-partum invasion of the uterus. It appears that this is something that got into the textbooks and became ingrained within the minds of the teachers of obstetrics, and like a bad habit it stays on and on, very little thought being given to the "why." Many old concepts should be brought to mind and re-examined and re-evaluated in the light of modern medicine. In so doing, we will find that some need to be discarded and some need to be re-emphasized. The ideas previously held concerning post-partum invasion of the uterus belong to the group that should be discarded and revised.

During my first year of residency, one day in the delivery room one of the staff men (and an excellent obstetrician) was demonstrating to a group of interns how to examine the placenta to make certain that it was intact. Two days later the patient from whom the demonstrated placenta had been expressed was taken to the operating room and an additional handful of placenta was removed. This caused the attending obstetrician to draw the conclusion that the examination of the placenta for him was of very little value in determining whether the placenta was intact. He decided to routinely insert the examining fingers through the cervix into the uterine cavity immediately following the expression of the placenta. This obstetrician had a fairly busy service, delivering approximately 25 patients a month. He informed the other residents and me of what he was doing. We kept separate records of his patients for a period of six months, during which time a total of 1,484 deliveries were done with an average puerperal morbidity of 3.2 per cent. The

puerperal morbidity of the 145 patients who had routine manual invasion of the uterus was 2.1 per cent. These patients *did not* receive antibiotics routinely post partum, since this obstetrician gave antibiotics only when the patient showed evidence of an infection. A smaller percentage of his patients received antibiotics than the other patients on the service. This experiment was done in 1948. Since then I have done routine manual inspection of the immediate post-partum uterus in all patients I delivered for the remainder of my three and one-half years of residency and the ensuing three years of army service, as chief of obstetrics, first in a station hospital and then in a general hospital. This has been done in well over 3,000 deliveries.

### Procedure

In describing the method of any procedure in surgery, it seems rather superfluous to remind the reader that *strict asepsis must be employed*. It is a known fact that the vagina contains many and varied bacteria, but the patient seems to have acquired immunity to her own bacteria. However, it is only logical that the obstetrician should change his gloves so that he does not introduce any foreign bacteria into the genital tract.

Immediately after the delivery of the placenta, the examining fingers are placed in the vagina with the fingers extended and inserted through the cervix into the uterine cavity, the fingers exploring both cornu and palpating the mucosal surface of the uterus and lower uterine segment for tears and fragments of placenta or membrane. The obstetrician's other hand is placed on the patient's lower abdomen, over the uterine fundus, so that counter pressure may be given to the examining hand. After the uterus has been found to be intact and empty, or has been emptied, the examining fin-

\*Received for publication May 20, 1955.



gers are withdrawn, and the cervix and vagina are then inspected for points of bleeding and lacerations. Even small lacerations should be sutured. If an oxytocic is to be given, this should be done by the anesthesiologist or circulating nurse while the obstetrician is inspecting the cervix. Following this, the repair of the episiotomy is done.

#### Comment

If the procedures as outlined are carried out in the delivery room in a careful, methodical, and meticulous manner, then if the doctor receives a call from the nurse notifying him that the patient is bleeding, he will be in a much better position to begin active treatment of that bleeding. He will know that the uterus is empty, that the lower uterine segment, the cervix and vagina are intact, and that the bleeding most likely is from atony of the uterus. Thus, the patient is spared the risk and discomforts of another anesthesia for an examination that should have been done in the delivery room. This prophylactic examination can be compared to the exploration of the common duct in gallbladder surgery.

Many times the patient has gone home from the hospital with the assumption that the doctor has done everything possible to insure that she will have a normal post-partum course. She expects only to recover her strength and is shocked when, in two to six weeks, she starts having profuse vaginal hemorrhage. She is rushed to the hospital, an emergency dilatation and curettage is done and small fragments of retained secundines are found. This is very discouraging

to the physician, as well as quite disturbing to the patient and her family. The patient and her family are informed that the reason for her bleeding was that all the afterbirth was not removed at the time of delivery. In addition, another hospital admission means a further financial drain on the family budget, to say nothing of the mother having to be away from her home and her newborn baby at an important time.

This type of incident *can*, and *should* be avoided by the routine manual inspection of the post-partum uterus. If the uterus has been inspected and found empty and the patient calls her physician four to six weeks post partum that she is having vaginal bleeding, he can confidently say that this is probably the beginning of a normal, heavy menstrual period, that she should get off her feet and notify him very shortly if the bleeding is profuse.

#### Summary

A new concept,\* the routine manual examination of the post-partum uterus immediately after the expression of the placenta, has been discussed and outlined. This procedure carries no risk for the patient and reduces puerperal morbidity and post-partum hemorrhage. It should become a part of the delivery routine in every patient.

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\*Since this article has been written, there has appeared in the January Issue of the *American Journal of Obstetrics and Gynecology*, Vol. 69, 185, 1955, a paper by Leon Herman, M.D., Charles Ward, M.D., and Donald Snyder, M.D., on Post-partum Uterine Examination."

*This syndrome in its lesser degrees may readily be overlooked. Yet the importance of its recognition and treatment are of great importance to the patient's well-being.*

## SHEEHAN'S SYNDROME

### Postpartum Panhypopituitarism

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This syndrome is not a common one, the incidence being estimated by Cook and his associates<sup>1</sup> as two severe cases and seven milder ones in each 10,000 population. However, it is important that the condition be recognized by the internist, the general practitioner, the surgeon, or the obstetrician and gynecologist because present day treatment can ameliorate the symptoms, protect the patient at times of stress, and probably halt the insidious development of secondary glandular hypofunction because of lack of proper and adequate replacement therapy. Cases of this syndrome have been treated as refractory or pernicious anemia, anorexia nervosa, hypothyroidism, hypoovarianism, Addison's disease, and functional hypoglycemia. It is therefore a matter of interest to all medical groups.

In 1914, Simmonds first published his observations on the syndrome as hypopituitarism. In 1937, Sheehan first correlated, by an excellent piece of work, the clinical features with the pathologic lesions in the pituitary and postulated the mechanisms involved in the etiology.

The cause of Sheehan's Syndrome is obstetric hemorrhage at term with the attendant shock. The hemorrhage may be due to placenta previa, ruptured uterus, cervical tears, post-partum uterine atony, retained placenta, sepsis, or toxemia. Eclampsia if complicated by hemorrhage with or without surgery may be the cause. It occurs more frequently in multipara and the severity of the disease is directly related to the severity of the hemorrhage. Since there is physiologic hypertrophy of the pituitary at term, it is at this time that it is most vulnerable to reduced circulation plus shock. There is thrombosis of the sinuses with ischemic infarction and coagulative necrosis of the anterior pituitary. The posterior pituitary and periphery of the gland escape involvement.

This picture is in sharp contrast to Simmonds' disease which may be the result of destruction of the gland by tumors, granulomas, injury, surgical removal, spontaneous atrophy and fibrosis.

### Clinical Picture

The patient is asymptomatic if not over 50 per cent of the anterior pituitary lobe is involved; there are moderate symptoms if 75 per cent is destroyed; and severe if 95 per cent or more of the lobe is lost. The majority of cases, namely 58 per cent, occur in the age groups 30 to 45.

Fresh necrosis is never the cause of immediate post-partum death. It takes six months or more for the full development of the symptomatology of the disease. The sequence may be as follows: In the puerperium there is a rapid pulse, oliguria, and a rise in blood urea. Then occurs inhibition of lactation with atrophy of the breasts which is noticeable on the fourth day. Shortly thereafter there appear amenorrhea, loss of libido, and senility of the genitals. In a few months the failure of regrowth of shaved pubic hair is noticed, or a loss of pubic and axillary hair. Complete loss is rare within the first five years. Sooner or later asthenia, apathy, striking pallor, thinning of the eyebrows and scalp hair, undue sensitivity to cold with loss of sweating develop. The skin is frequently cold and dry, the pulse slow, the temperature and blood pressure normal or low. There are frequent psychologic changes together with a generalized microsplanchnia.

Lovset<sup>2</sup> classifies the cases into five clinical groups in declining severity:

*Group I. Progeria.* The patient appears 10 to 15 years older than the actual age. Head hair is normal. This situation is usually noted 9 to 14 years after pituitary necrosis. There is a prolonged terminal stage. (The case to be presented

below is best classified in this group.)

**Group II.** Intermediate between Progeria and Myxedema. In this group progeria is less marked. The skin is thin, dry, shiny and atrophic; the head hair is short, thin and dry.

**Group III.** Myxedema. Usually this is found two to three years after necrosis.

**Group IV.** Hypothyroid. Here the findings are less than in the severe Myxedema group.

**Group V.** Normal appearance and slight symptoms. This is the type most difficult to diagnose.

Sheehan<sup>3</sup> makes the important point that emaciation and progeria usually throw doubt on the diagnosis of hypopituitarism nowadays. He stresses that the disease, when fully developed because of destruction of sufficient of the anterior pituitary gland and lapse of required time after destruction, results in genital superinvolution, deficiency of thyroid and adrenal cortical function and hypoglycemia.

Berkman<sup>4</sup> also concurs with Sheehan that severe emaciation usually mitigates against anterior pituitary deficiency. He emphasizes that in anorexia nervosa, which is frequently difficult to differentiate from Sheehan's syndrome, the occurrence is also usu-

ally in women, but under the age of thirty. There is an extraordinary degree of physical and mental activity for the degree of emaciation. There is also increased growth of fine hair on the trunk, arms, legs and mustache region with coarse hair in the sideburn region.

The laboratory studies vary with the severity of the disease. There may be a normocytic or microcytic anemia. Glasgow<sup>5</sup> reported a case of macrocytic anemia resistant to treatment. The marrow was not megaloblastic. He believed the anemia to be due to a lack of endocrine factors, namely from the thyroid and adrenal cortex. The bone marrow is usually erythroblastic but may be fatty in some instances. The blood proteins are normal. There is usually a leukopenia with relative lymphocytosis and eosinophilia. Gastric analysis shows an achlorhydria. The urinalysis is normal, although some albumin, pus cells and ketonuria may be present. Blood, calcium, non-protein and blood urea nitrogen values are usually normal.

The endocrine values are as follows:

The disease runs a chronic course with patients living from 10 to 30 years. Death is usually in coma and may frequently be initiated by intercurrent infections such as

|                              | <i>Pituitary</i>              | <i>Normal</i>                           |
|------------------------------|-------------------------------|---|
| <i>Pituitary</i>             |                               |   |
| 24 hr. urinary gonadotropins | Reduced or Absent             | 6-54 mouse units                        |
| X-ray sella                  | Normal                        | Normal                                  |
| <i>Thyroid</i>               |                               |   |
| B.M.R.                       | Low                           | -10 to +15                              |
| Serum cholesterol            | Normal or elevated            | 150-230                                 |
| Serum P.B.I.                 | Reduced                       | 4-8 mcg./100 cc.                        |
| I <sup>131</sup> uptake      | Reduced                       | 10-40% uptake 24 hr.                    |
| <i>Adrenal Cortex</i>        |                               |   |
| 17-ketosteroids              | Markedly reduced              | 5-15 mg./24 hr.                         |
| Kepler Water Test            | Delayed diuresis <25          | A >30                                   |
| Sodium                       | Normal or low                 | 136-145 meq./L.                         |
| Potassium                    | Normal or high                | 3.5-5.5 "                               |
| Chloride                     | Normal or low                 | 100-108 "                               |
| Thorn Test                   | Normal or reduced             | Decrease of 50% of eosinophiles or more |
| <i>Ovaries</i>               |                               |   |
| Vaginal smear                | Low                           | Normal                                  |
| 24 hr. urinary estrogens     | Loss estrogenic effect        | 15-50 mcg./24 hr.                       |
| <i>General</i>               |                               |   |
| Fasting blood sugar          | Low                           |   |
| Oral glucose tolerance       | Flat curve                    |   |
| Insulin tolerance            | Hypoglycemic unresponsiveness |   |

**NOTE:** The insulin tolerance test in an individual with marked pituitary insufficiency should either be done with great care or not done at all, as deaths have been reported. Certainly a doctor should be present when it is done in such cases.



tuberculosis. There are two types of coma, namely, the hypoglycemic type and the Addisonian. In the hypoglycemic the temperature is low and pulse is slow. In the latter type there is dehydration, with hyponatremia, hypochloremia, hyperpotassemia, and hypoglycemia. In contrast the temperature and pulse are elevated.

Sheehan states that subsequent pregnancy is the best treatment. This is thought to cause functional hyperplasia of the remainder of normal anterior pituitary. However, in some of the cases, particularly those which are more advanced, subsequent pregnancy is impossible, and replacement therapy offers the best hope for re-establishment of well being and health. McCullagh and co-workers<sup>6</sup> have found thyroid substance, testosterone, cortisone in low doses, and estrogens (if menses are desired) to be most beneficial.

### Case Report

This 40 year old white woman, para 5 gravida 5, was seen initially on May 29, 1954, with the following complaints: (1) amenorrhea since 1944 (10 yrs.); (2) burning in the genital region with some yellow vaginal discharge; (3) heavy sensation in the suprapubic region and urinary frequency; and (4) poor appetite, constipation, and weakness with gradual loss of energy over the past 2 years, and the need for repeated rest periods from work during each day.

Closer questioning revealed that her youngest child was approximately 10 years old. After the home delivery she bled profusely and needed hospitalization and transfusions.

On physical examination she appeared pale and apathetic. There was wrinkling of the skin of her forehead, and she looked five to ten years older than her stated age. The height was 62 inches, weight 111 pounds, and the B.P. 95/60. The skin was pale and sallow. She wore dentures. There was atrophy of the tongue.

The liver was edge palpable 1 finger-breadth below the right costal margin, the border being sharp and nontender. Pelvic examination of the vagina showed senile atrophy and atrophy of uterus and adnexa. Reflexes and vibratory sensation were normal. The remainder of the physical examination was normal.

She was thought initially to represent a case of pernicious anemia. She had been treated for anemia by various physicians in the past five years. *Laboratory studies* did not confirm this impression and were as follows: RBC 3.60 million, Hgb 12.7 Gm., WBC 9,000, with 8 to 10% eosinophilia, hematocrit 37 to 38, and reticulocyte count, none seen. The voided urine was clear, acid, with a specific gravity of 1.029, with absence

of albumin and sugar; the microscopic examination showed 25 to 30 pus cells per HPF. Gastric analysis showed 23 units of free HCl and 31 units of total acid after alcohol.

On a subsequent office visit the loss of axillary and pubic hair was noted and she was admitted to the hospital for further study. The following additional facts were elicited. (1) The hospital records in Cincinnati, Ohio, revealed that the patient was admitted on September 5, 1944, in severe shock which lasted for four hours. Two units of plasma and blood were given with a hemoglobin of less than 6 Gm. following the plasma. Subsequent blood transfusions were given. (2) There was some loss of libido. (3) Visual disturbances were noted when reading or upon getting up quickly. (4) Cold hands and feet offered a complaint. (5) Intolerance to cold was recognized. She perspired only on the face.

*Physical examination* in the hospital was no different than that in the office. The pulse was 66, B.P. 90/60. The loss of pubic and axillary hair were noted; the hair of head normal.

*The laboratory and X-ray studies* in the hospital were as follows:

X-ray film of the chest was normal. X-ray examination of sella turcica revealed a small sella. There were no destructive bony changes. The RBC was 3.48 million, Hgb 11.0 Gm., WBC 6,200 and the differential 33% polymorphonuclears, 51% lymphocytes and 14% eosinophiles. The blood tests for syphilis were negative. The sedimentation rate (Wintrobe) was 27 mm./hr. The total cholesterol was 366, and the NPN 35.5 mg./100 cc. Total serum proteins were 7.7, albumin 5.5 and globulin 2.2 Gm. per 100 cc. Thymal turbidity was 4.1 units and cephalin flocculation test 3+ at 48 hr. The Kepler Water Test showed a night specimen of 120 cc., the largest hourly morning specimen of 45 cc., an index of less than 25. The BMR was 33 per cent.

An oral glucose tolerance test revealed the following values, fasting 78, 30 min. 142, one hour 153, 2 hr. 113 and 3 hr. 90 mg. per 100 cc.

An insulin tolerance test showed a fasting of 100, 30 min. of 80, 1 hr. of 55, 2 hr. of 55, and 3 hr. of 58 mg. per 100 cc.

A Thorn test showed a fasting eosinophile count of 1,000 per cu. mm. and 4 hr. after ACTH 950 per cu. mm.

Protein bound iodine was 3.6 micrograms/100 cc., and 17-ketosteroids 1.28 mg. per 24 hr.

### Discussion

This case was similar to others in the presence of mild anemia, eosinophilia, and relative lymphocytosis. Various tests revealed hypofunction of the adrenal cortex and the pelvic examination was consistent with hypo-ovarian function. The only positive general endocrine test was the insulin tolerance test. Myxedema and/or hypothy-

roidism is excluded by the protein bound iodine, which I believe is quite representative in this patient since there had been no testing or treatment with organic or inorganic iodides.

Other tests which gave positive results probably mirror the hypofunction of a specific organ or the organism in general which is characteristic of the syndrome.

This patient was placed on thyroid extract gr. 1 daily, cortisone 12.5 to 25 mg. daily, and methyl-testosterone 10 mg. two to three times daily. Estrogen was not given as patient did not desire a return of the menses. Unfortunately the patient moved from the state so that further follow-up was impossible and contact with her has been lost. In the month she was followed there was a five pound weight gain and marked improvement in endurance, bodily strength, and sense of well being. The blood pressure ranged around 110/60. In brief, regarding treatment, McCullagh<sup>6</sup> emphasizes that larger doses of cortisone are not tolerated because of nervousness and insomnia. Testosterone is quite helpful for its anabolic effect and should be given. Thyroid substance is also helpful after the above treatment has been used for several weeks to one month. Other particulars as to replacement therapy have been mentioned earlier.

### Summary

Sheehan's syndrome is of practical importance to the various medical groups and should be considered in all cases of obstetric hemorrhage with shock at term. Subsequent careful follow-up is essential to ascertain whether development of the disease

will occur. The incidence of this syndrome is probably more frequent than we are led to believe, and is probably directly proportional to the degree of careful follow-up of these cases together with a constant awareness of this syndrome in the mind of the observer.

Cardinal facts to consider with light of a history of hemorrhage are: failure of lactation, loss of body hair, particularly in the pubic region, later amenorrhea, amelioration of pre-existing diabetes, and symptoms and signs attendant to pituitary hypofunction. These patients do not tolerate stress well, and recognition and evaluation of the severity of this syndrome should be done before anticipated surgery or in the development of infections.

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*This is a review of the aid which the X-ray examination may offer in instances of intestinal obstruction.*

## DIAGNOSIS AND TREATMENT OF ILEUS

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The diagnosis and management of ileus depend on the correlation of the history and findings, and on thorough evaluation of the probable physiologic and pathologic changes. Consultation between physician, surgeon, and radiologist may be necessary. The purpose of this paper is to present practical information for the interpretation of the signs and symptoms of ileus consequently to assist in early diagnosis and treatment.

### Anatomy and Physiology

Roentgen examination of the abdomen is an important procedure for the diagnosis of ileus. Generally the major part of the jejunum occupies the left side of the abdomen, and the distal jejunum and proximal ileum are in the right side. The ileum extends into the pelvis, and finally enters the right iliac region where it joins the cecum. The long axis of the small intestine is usually directed transversely and its diameter decreases distally. The circular folds of mucous membrane are absent in the terminal ileum. Branches of the superior mesenteric artery supply nearly the entire jejunum and ileum. Fibers from the sympathetic nervous system innervate the blood vessels in the intestinal wall.

Part of the colon occupies the periphery of the abdominal cavity. The position of particularly the cecum, transverse colon, and sigmoid is influenced by colonic length and mobility. The cecum is the widest and often the most mobile part of the colon, and its wall is comparatively thin. The outer muscular coat is relatively short; the resulting sacculations are the haustra. They have rounded margins, are widest peripherally, decrease in number distally, may be irregularly spaced, and are often absent in the sigmoid. There is normally much variation in the pattern of the colonic mucosa. The colon proximal to the splenic flexure is supplied by the superior mesenteric artery.

Peristalsis is controlled by the intrinsic nerve plexuses. These are influenced by the sympathetic and parasympathetic autonomic nervous systems. Stimulation of the sympathetic fibers inhibits intestinal tone, and activity, and excitation of the parasympathetic fibers augments gastrointestinal muscular contraction except of the sphincters. The sympathetic fibers are the motor nerves of the latter. Stimulation of the sympathetic fibers to the blood vessels in the intestinal wall causes vasoconstriction, and blocking of the impulses apparently produces dilatation.<sup>1</sup>

### Intra-Intestinal Gas and Fluid

Swallowed air appears to account for most normal intra-intestinal gas. Some normal gas is the result of diffusion from the blood stream, and also from fermentation in the small intestine, and putrefaction in the colon. Gas is normally present in the small bowel of infants, and in lesser amounts in children, and occasionally in adults.

Fluid, normally present, is not visualized in the normal small intestine because it is mixed with the other contents.

Intra-intestinal gas and fluid may result from irritating evacuants, enemas, and diarrheal conditions, but the bowel distention is mild.<sup>5</sup>

Gas and often fluid are present in ileus. Significant amounts of both probably remain in the bowel following surgical treatment of intestinal obstruction. Intra-intestinal gas and fluid may also represent residual of obstructions relieved nonsurgically caused particularly by fecal concretions, intussusception or hernia (Fig. 1 A and B).

### Physiologic and Pathologic Changes

Interference with the normal gaseous exchange between the intestinal lumen and the intramural veins is probably largely responsible for the abnormal accumulation of intra-intestinal gas. There is stagnation of the intestinal contents in the inhibited (paralyzed), and in the mechanically ob-

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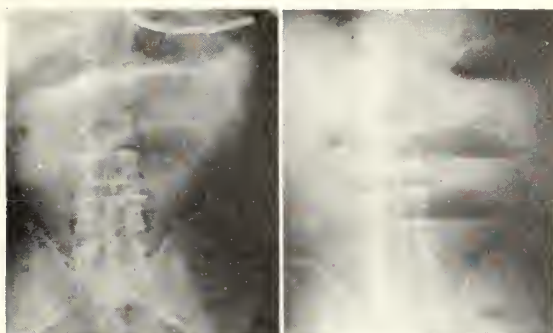


FIG. 1 (A) and (B). Small bowel distention with fluid, residuum of an obstruction due to an inguinal hernia which was reduced by the patient after much difficulty.

structed intestine. Distention stimulates the intestinal glands, secretion is increased, but absorption and motility are diminished. The pressure within the bowel obstructs the veins.<sup>2</sup> This causes engorgement of the small vessels, transudation into the bowel wall, lumen, and peritoneal cavity, hemorrhage, and anoxia. Progression of the process results in necrosis, perforation, and peritonitis. The intra-intestinal fluid is composed largely of the added secretion, and some inflammatory exudate, transudate, and nonabsorbed ingested fluid. Edema of the intestines, and lungs, and pleural effusion may occur secondary to administration of too much saline.<sup>4</sup>

#### General Roentgen Findings

Intestinal loops containing gas may be identified by their contour and position. The mucosal folds of the small bowel, especially of the jejunum, present a concertina-like appearance, and a step-ladder effect when fluid is also present. Gas may be present in segments of bowel distal to the involved area in early stages of ileus, partial obstruction, and during the process of deflation of distended intestine. The mucosal folds of the ileum may be erased by the distention and edema of the bowel. The thickness of the intestinal wall shadow is increased by peritoneal exudate, transudate, edema of the intestinal wall, and carcinomatosis of the peritoneum. (Fig. 2.) Peritoneal effusion may produce a homogeneous density or ground glass appearance. Free gas in the peritoneal cavity in acute abdominal conditions is usually secondary to a perforation in the gastrointestinal tract. Other roentgen signs of ileus depend on the



FIG. 2. Obstruction of the terminal ileum. Note increased width between margins of the gas shadows due to edema of the intestinal wall, and peritoneal exudate.

cause, position, and type of obstruction. These are discussed under the appropriate headings.

#### Roentgen Examination

Immediate X-ray examination of the abdomen is indicated, and should be repeated in about two hours if necessary. Study in the erect and supine position are usually adequate. However, the prone, lateral decubitus, and transabdominal positions may be used when necessary. Cleansing enemas are not given and in fact there is no preparation for the examination.

It may be necessary to give a barium clyisma for identification of the involved segment or to help differentiate adynamic from mechanical ileus. There is no obstruction to the passage of the opaque in the former condition. About one tablespoonful of gastrointestinal barium sulphate mixture may be given by mouth or twice this amount injected through a Miller-Abbott tube. This assists in the identification of the involved loop of intestine. The position of the opaque medium and tube are determined by roentgen examination at reasonable intervals as indicated. These procedures should be used only if necessary.

#### Adynamic Ileus

The most frequent cause of adynamic (in-

hibitive, functional, paralytic) ileus is acute peritonitis. Other etiologic factors are intestinal circulatory disturbance, severe intestinal trauma, excessive handling of the bowel during operation, allergy, reaction to codeine and other drugs, and general anesthesia. Reflex causes are not uncommon and include gallbladder, pancreatic, and urinary tract, disease, ureteral catheterization, fractured spine, spinal cord injury, acute lumbar myositis, severe burns, pneumonia, heart disease, uremia, and hysteria.

Peristalsis is markedly diminished or absent. There is regurgitation, and abdominal tenderness but usually little or no pain. Respiratory distress may be produced by the intestinal distention. Peritonitis may be present but gangrene and perforation rarely occur.

The distention may be localized but it is usually extensive and involves the small and large intestine. Intra-intestinal fluid may also be present. Increased thickness of the intestinal wall shadow may be produced by separation of the intestinal segments by fluid in the peritoneal cavity due to peritonitis. Adhesions secondary to acute peritonitis may produce a complicating mechanical ileus.

#### Mesenteric Vascular Occlusion

Mesenteric artery occlusion may result from embolism and occasionally from thrombosis. Mesenteric venous thrombosis is usually secondary to infection. Vascular trauma and blood dyscrasias are among the other conditions that may cause mesenteric occlusion. Vasospasm may be a contributory factor. The infarcted bowel becomes atonic and the site of an adynamic ileus.

The onset is usually sudden with acute abdominal pain and symptoms of shock. The clinical course may, however, be mild in incomplete, slowly progressing occlusions. The vomitus and stools may contain blood. Constipation may occur, but diarrhea is more frequent.

A relatively small amount of intra-intestinal gas and much fluid may be demonstrated early in the course of the illness. Gas may be present in the small and large intestine and end sharply at the splenic flexure.<sup>7</sup> It is not uncommon for a small amount of normal gas to be present in the

descending colon. There may be only mild distention of multiple separate segments of bowel or no evidence of intestinal distention. Abdominal effusion may obscure all intra-abdominal organs.

#### Spastic Ileus

The causes of spastic ileus are external injury, intra-abdominal inflammation, intra-intestinal irritative conditions as ulcers, lead poisoning, neurasthenia, hysteria, and unknown factors.

Though there is usually a history of chronic intestinal discomfort, spastic ileus may resemble mechanical or adynamic ileus. The onset may be abrupt. Nausea, vomiting, intestinal colic, and constipation occur especially when the small intestine is involved. Chronic bowel irregularity, flatulence, and attacks of acute abdominal pain characterize colonic involvement.

There is abdominal distention and increased intestinal tone. Loops of bowel and peristalsis may be visible and palpable especially if the condition is chronic.

There may be no roentgen signs or the intestine may be extensively distended and contain fluid as well as gas. Single or multiple segments of small or large intestine or both may be involved. It may be very difficult to distinguish colonic spasm from organic obstruction, or extensive intestinal distention from adynamic ileus. The distended intestinal shadows may at times end abruptly as in mesenteric occlusion or there may be single or multiple areas of distention above the spastic levels.

#### Dynamic Ileus

Mechanical (simple) ileus is caused by extrinsic or intrinsic obstruction of the bowel lumen. The occlusion may be produced by adhesions, arteriomesenteric bands, intra-abdominal tumors, hernias, volvulus (Fig. 1), intussusception, congenital or acquired stenosis, meconium, fecaliths, fecal impaction especially in elderly debilitated people, foreign bodies including hairball and hydrophilic evacuants, worms, impacted gallstones, diverticulitis and neoplasms.

The symptoms depend on the acuity or chronicity, site, and nature of the obstruction, and on the degree of disturbance of function. A high obstruction usually be-



comes very serious if the intestine is not decompressed, and if fluid and salt loss are not replaced. The intestinal wall may be stretched to a dangerous degree particularly in low obstructions.

Acute occlusion is characterized by intermittent colicky pain due to distention and excessive contraction of the bowel. The cramping may change position frequently. More or less continuous abdominal pain and tenderness occur secondary to peritoneal irritation by an effusion or blood in the peritoneal cavity. Early vomiting may be reflex, but reverse peristalsis originating in the segment of irritable bowel very often eventually plays an important part in the vomiting mechanism. Vomiting is frequently absent in acute colonic obstruction. The vomitus is often bile stained, and may become feculent a few days after onset of the illness or earlier. Bowel movements and passage of flatus usually stop on the second day of the illness, and at times sooner. There may be tachycardia, fever, and leukocytosis. Reflex effects on other organs may produce severe symptoms.<sup>1</sup>

Abdominal distention is common but may be absent in very high, and in some closed loop obstructions, and in strangulation without occlusion of the bowel lumen. Peristalsis may be visible and palpable. Borborygmi occurring at the height of the pain usually indicates that the obstruction is mechanical. Dehydration, chloride depletion, and possible alkalosis appear earlier, and are more marked in high obstruction. This is caused by loss of fluid, and salt in the vomitus, and into the involved intestine. Anuria, oliguria and uremia may result within a few days from marked chloride deficiency. Similar changes occurring in low obstruction are the result of interference with intra-intestinal absorption and diminished fluid intake. Elevation of the blood non-protein nitrogen also occurs earlier in high obstruction.

Distended bowel containing both gas and fluid usually means that the small intestine is obstructed (Fig. 3, A and B). The configuration of the intestine distal to the distention may suggest adhesions, inflammation, intussusception<sup>6</sup> of neoplasm as the cause. Persistent or increased distention is of diagnostic importance. However, regurgitation

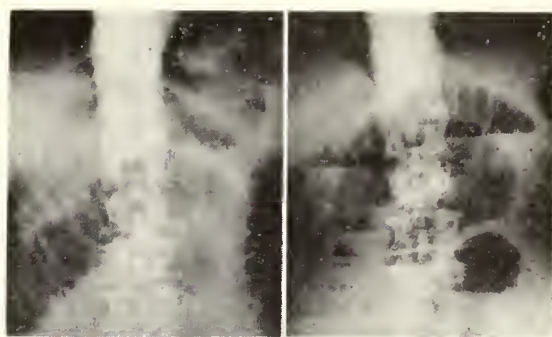


FIG. 3 (A). The configuration of distended loops of small intestine are shown with fluid levels. An obstructing mass of inflammatory tissue secondary to a ruptured appendix was present at the ileocecal junction.

may decrease the intra-intestinal gas in high obstruction. An adynamic ileus may develop proximal to the level of a mechanical obstruction and be a serious complication. Distention is usually limited to the large bowel in mechanical colonic obstruction. Marked distention of the cecum is often secondary to obstruction in the sigmoidocolic area.

#### Strangulation Obstruction

Arrest of the blood supply to an occluded area of intestine characterizes strangulation obstruction. This is most often produced by obstructing adhesions at two levels. Simple obstruction of the colon may be transformed into a close loop or strangulation obstruction by the ileocecal valve or by adhesions.

Signs of strangulation are sudden onset of continuous, diffuse abdominal or back pain, a palpable tender mass, bloody rectal discharge, shock, fever, and leukocytosis.

The involved segment is distended, and may be shaped like a coffee bean, or a lobulated mass.<sup>8</sup> Intra-intestinal gas may be present above the level of the involved segment especially if the proximally situated obstruction is incomplete. Short closed loops of bowels are usually fixed in position.

#### Treatment

Therapy includes correction of dehydration and chloride depletion, administration of antibiotics, plasma or whole blood to combat shock, and other measures that may be indicated.

Decompression of the bowel by suction drainage through a duodenal tube decreases



the edema of the intestinal wall and diminishes the other deleterious effects of intestinal distention. The Miller-Abbott tube is usually used in mechanical obstruction and in adynamic ileus when relief is not obtained with an inlying duodenal tube. Suction drainage is used if immediate operation is not indicated or the patient's condition does not permit surgical intervention. It is particularly useful in physiologic and adhesive occlusions.<sup>3</sup> Ileocecal valve and consistency of the cecal-colic contents interfere with decompression of the intestine in low occlusions. Complete deflation is usually not obtained in closed loop obstructions. Recurrence of distention may be due to angulation of the bowel, adhesions or to unknown cause, and requires prompt attention.<sup>1</sup> Successful decompression is revealed by diminished abdominal and intestinal distention, change in the configuration, and position of the intestinal loops, and general improvement.

Operation is usually indicated when decompression is not progressive or intestinal distention increases during the second day of apparently satisfactory suction drainage<sup>3</sup> or if there is no appreciable improvement in the patient's condition after decompression and general therapy. Some recommend early operation for acute small intestinal obstruction.<sup>6</sup> Spastic ileus involving the colon may be relieved by spinal anesthesia but operation is in order if there is marked distention. Early surgery is indicated in congenital intestinal atresia. Immediate operation is necessary for mesenteric occlusion, closed loop obstruction, and strangulation, and usually for colonic and distal small bowel obstruction accompanied by marked distention. Splanchnic nerve block may be a beneficial adjunct treatment for mesenteric vascular occlusion.<sup>10</sup> Early cecostomy or other indicated surgical procedure is advisable to avert possible perforation of a markedly distended cecum.

### Summary

Pertinent information is presented for practical application in the diagnosis and treatment of ileus. A simple classification of ileus consists of adynamic, spastic and dynamic types and two subdivisions. The etiology, symptoms, and signs are described.

The multiple causes emphasize the importance of differential diagnosis. Each patient must be appraised individually and all factors correlated.

Roentgen examination of the abdomen is important for diagnosis but the findings should be appraised after thorough analysis and consideration of the clinical features. Intestinal roentgen anatomy, physiology, and pathologic changes in ileus are therefore included. Demonstration of an abnormal intestinal pattern is the most helpful single roentgen contribution to early diagnosis. Roentgenograms are included to illustrate some of the conditions presented in the text.

Gas and fluid are normally present in the gastrointestinal tract. Pathologic and other sources of intra-intestinal gas and fluid are considered. Interference with the normal gaseous exchange between the intestinal lumen and the intra-mural veins is probably largely responsible for the abnormal accumulation of intra-intestinal gas. There may be very little or no intestinal distention in some forms of ileus, and in other instances it may be obscured by associated pathologic changes. Some of the diagnostic features of ileus appear late and may be precursors of serious complications.

The treatment is medical and surgical, and the indications for each are presented. Decompression of the small bowel by suction drainage is often very beneficial. It is used when there is no indication for immediate operation or if the patient's condition does not permit surgical intervention. However, operation is usually indicated if deflation does not progress or if intestinal distention increases in spite of apparently satisfactory suction drainage.

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**Prevention of First-Attack Rheumatic Fever. J. P. Hubbard. *Ann. Int. Med.* 43:504, 1955.**

The prevention of recurrences of rheumatic fever through the prophylactic administration of one of the sulfonamide or penicillin preparations has become a well-established practice. The prevention of first-attacks of rheumatic fever is the object of the American Heart Association Committee on Prevention of Rheumatic Fever and Subacute Bacterial Endocarditis. The author points out some of the difficulties accompanying such a program, not the least of which is the diagnosis with certainty of all streptococcal infections because many of them do not follow the typical course of sudden onset of sore throat, headache and fever. He does suggest, however, that in private practice a skillful physician can often recognize a streptococcal infection on clinical grounds and penicillin therapy may be started without waiting for bacteriologic confirmation. The less characteristic streptococcal infections which may also lead to rheumatic fever are a more difficult problem. In such cases the author states that bacteriologic examination is of the greatest value in order that penicillin therapy may be started promptly for those cases that are of streptococcal origin.

**Reviewer's Note:**

It is also highly controversial that streptococcal infections can be diagnosed clinically with any degree of consistent but regardless of the diagnosis the usual practice is to go ahead and administer an antibiotic anyway.

Obviously much more information is needed on the prevalence of hemolytic streptococcal infections. The indiscriminate and widespread use of penicillin for the treatment of practically all upper respiratory infections regardless of etiology will make it most difficult to initiate and control the recommendations of the American Heart Association. (Abstracted for the Middle Tennessee Heart Association by Robert W. Quinn, M.D., Nashville, Tenn.)

## STAFF CONFERENCE

### City of Memphis Hospitals\*

DR. I. FRANK TULLIS: Our patient for discussion today will be presented by Dr. Hall.

DR. JETER C. HALL: This case is a 50 year old colored male who entered the hospital on September 23 because of headache.

*Present Illness:* For one month he had experienced a moderate headache in the mornings after arising. It usually subsided by noon after which he felt well. Seven days prior to admission his nose felt "stuffy" and he thought he was taking a cold. Four days later the headache became quite severe and persisted to the time of admission.

*Physical Examination:* He was disoriented as to time and place and was quite restless and irritable. The temperature was 105, pulse 104, respirations 22 and blood pressure 240/140. There was moderate tenderness over the left frontal sinus; the pupils were equal and reacted to light. Retinal vessels showed arterial spasm arteriovenous nicking. The neck was slightly stiff, and several anterior cervical nodes were palpable. The lungs were clear, and the heart was not enlarged. All cranial nerves appeared intact, and the tendon reflexes were equal and active. Gordon's reflex was present on the right.

*Laboratory Studies:* Examination of the blood showed a hematocrit of 44% and a white cell count of 23,500/cu. mm. with 2% bands and 80% neutrophils. The urine had a specific gravity of 1.018 and a 2+ test for protein. The sediment contained 0 to 1 red cells and 15 to 20 white cells per high power field. A lumbar puncture showed an opening pressure of 200 mm. of water. The fluid appeared clear grossly. Microscopically, there were 92 lymphocytes and 2 neutrophils per cubic millimeter. Acid fast and Gram stains were negative. Spinal fluid protein was 50 mgm.% and sugar 68 mgm.% Chest and skull X-rays were normal. X-ray examinations of the paranasal sinuses were unsatisfactory. PPD skin test No. 1 was interpreted as 1+ and a histoplasmosin test as 2+ at 24 hours. Blood cultures were negative.

*Course in Hospital:* He was given large doses of penicillin (1,000,000 units intravenously every 2 hours following an initial intrathecal injection of 5,000 units), streptomycin and sulfadiazine. The temperature tended to come down by lysis, but otherwise he seemed to be deteriorating. He became rather somnolent but was easily aroused. On the sixth hospital day spinal tap was repeated

with essentially the same findings as previously mentioned. A moist preparation with India ink was performed and was interpreted as positive for cryptococccic neoformans. Appropriate cultures for cryptococcus have been obtained.

DR. TULLIS: Although it will be some time before culture identification is available, the organisms seen on this India ink preparation were sufficiently typical, with the classical halo as well as budding forms, to make those of us who have seen them satisfied that this patient has cryptococcus, or torula, meningitis. I would like to ask Dr. Gene Lasater, of the Department of Neurology, to open our discussion of this condition.

DR. GENE LASATER: This case is an example of a disease that occasionally turns up when one employs every diagnostic facility available in attempting to identify the etiologic agent in patients with lymphocytic meningitis.

*Cryptococcus Neoformans* is a yeast-like organism that reproduces by budding and has been found to be rather widespread in nature as a non-pathogen. When it does become pathogenic for man, the organism is usually very resistant, producing ineffectual tissue and antibody responses. Almost every tissue of the body may be invaded, but the brain, lung, skin and lymph nodes are most commonly affected. Central nervous system invasion is by far the most common cause of clinically recognized forms of the disease.

Pathologically, the central nervous system shows a chronic granulomatous meningo-encephalitis. The leptomeninges are thickened and may be studded with pinhead nodules, consisting of lymphocytes, large mononuclear cells and occasional giant cells. The cerebral cortex may contain multiple small necrotic areas with little or no glial reaction, producing the so-called "soap-suds" appearance. Less often, large granulomata with multiloculated cysts may be present without generalized meningitis. The organisms can usually be demonstrated in the central nervous system lesions.

The clinical picture of torula meningitis may closely resemble tuberculous meningitis. Chronic headache, lethargy, stupor, delirium, and disorientation are common. Cranial nerve palsies, papilledema, pyra-

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midal and cerebellar signs may be present. There is often little or no fever or leucocytosis. The spinal fluid exhibits a lymphocytic pleocytosis. Protein is usually increased, and the sugar and chloride contents may be reduced. Torula organisms may be mistaken for red cells or lymphocytes unless budding forms are seen. They are most easily identified by mixing a loopful of centrifuged deposit with India ink on a slide and applying a cover-slip. The organisms then appear surrounded by a clear halo against the black background. Torula can be cultured on blood agar, Littman's oxgall medium, or Sabouraud's medium, but growth may be slow, and the cultures should be kept for at least 3 to 4 weeks. Mice inoculated with spinal fluid containing torula will usually die within 5 to 15 days, and the organisms can be found easily in the brain.

Torulosis occurs most often in adults. Males are affected about twice as frequently as females. Gendel<sup>1</sup> has observed that torulosis occurs more frequently in patients with Hodgkin's disease than would be expected on the basis of chance alone.

Torula antigen, fever therapy, alkalinization, immune rabbit serum, and a large number of chemotherapeutic agents have been used in the treatment of patients with cryptococcal meningitis with only occasional benefit.<sup>2</sup> Ethyl vanillate<sup>3</sup> and Stilbamidine,<sup>4</sup> two agents that have been of value in the treatment of histoplasmosis, are not effective against cryptococcus.

*In vitro* studies have shown that torula is sensitive to Actidione (cycloheximide) and to polymyxin B.<sup>5</sup> These drugs, when combined, have a synergistic action, *in vitro*. Actidione appears to be fungistatic while polymyxin B is fungicidal.

Several reports indicate that Actidione may favorably affect the course of cryptococcal meningitis, at least temporarily, and a few cases have been considered "cured" following therapy with this drug.<sup>5,6</sup> These results should be accepted with some reservation, however, since spontaneous remissions for as long as two years without specific therapy have been recorded. To my knowledge there have been no reported cases treated with a combination of Acti-

dione and polymyxin B. Although the use of polymyxin B is associated with some risk of renal toxicity, the very poor prognosis of the disease justifies the trial of this drug.

DR. TULLIS: Thank you, Dr. Lasater. To be specific and apply these points concerning treatment to our patient, what sort of regimen would you recommend. Also, how would you estimate prognosis?

DR. LASATER: In view of the reported synergistic action between Actidione and polymyxin B, plus the failure in general of other treatment methods, I suggest that this drug combination be used. Dosage of Actidione has been twenty to sixty milligrams intravenously per day, given in one dose. One plan used<sup>6</sup> was to begin with 20 mg., increase to 40 mg. and later to 60 mg., then maintaining 60 mg. as the daily dose. Experience is not yet adequate, I'm sure, to state how long therapy should continue, though Carton<sup>5</sup> recommended three to six months. Polymyxin B may be given in a dose of about 40 mg. each six hours intramuscularly to a patient such as this, while watching for a rise in NPN and a diminution in urinary output.

As to the question of prognosis, the ultimate outlook is, of course, extremely poor. Many patients run a chronic, fluctuating course, however, and may survive for several years. The disease is occasionally more fulminating, terminating in death within a few weeks. The presence of high fever and leucocytosis are said to be indicative of a more rapidly progressive course. This patient has fever, leucocytosis, a short history, and at the present time appears critically ill. Accordingly, I would suspect that his expectancy, untreated, would be shorter than in those patients with a more chronic type of picture. With our present knowledge one could only guess what change in that prognosis will be produced by treatment in this one patient.

DR. J. WARREN KYLE: The routes of infection and transmission of cryptococcus infections are poorly understood, are they not?

DR. LASATER: That is true. The organism has been isolated from soil, milk, fruit juice, plants, and from the mouth and skin of humans who had no evidence of infec-

tion. *Cryptococcus* occasionally causes disease in dogs, cats, horses, cows, and other animals, but no proven case of transmission from animals to man has been recorded. In human infections the portal of entry is presumably through the respiratory system, although at autopsy, pulmonary lesions are not always found.

DR. BERNARD M. ZUSSMAN: Are helpful skin tests with torula antigen available?

DR. LASATER: Carton<sup>5</sup> reported preparation of autogenous antigens which were productive of positive skin reactions in his patients. I am not aware of the existence of a commercially available antigen for general use. One certainly is likely to be offered soon if not already available, since the infection is being diagnosed more and more frequently.

DR. TULLIS: It would be well to emphasize to the interns and residents present just what should be requested on laboratory slips to accompany spinal fluid specimens on patients in whom cryptococcal infection is suspected. Dr. Lasater, would you say something on that?

DR. LASATER: In addition to the routine requests for WBC, differential, and sugar determination, the clinician should ask that the centrifugal sediment be examined in nigrosin or India ink preparations for encapsulated yeast forms. The specimen should also be cultured on blood agar, Sabouraud's dextrose agar and thioglycollate. Incubation at different temperatures may facilitate isolation of the fungi. Since growth may be slow, cultures should be kept for several weeks.

DR. WAYNE P. HYATT: Dr. Lasater, I noticed that you did not mention quantitative protein and chloride determinations as a part of the laboratory request to go with the spinal fluid.

DR. LASATER: Those two chemical studies have little practical value in the usual case such as this. The protein is almost always increased in spinal fluid which is turbid from increased cellular content. Occasionally, I should admit, one is helped by the finding of an extremely high protein content, which suggests a spinal subarachnoid block. The chloride content varies directly with the blood chloride level and

inversely with the spinal fluid protein. Hence, changes in chloride rarely have specific significance. A very low chloride in spinal fluid with lymphocytic pleocytosis is somewhat suggestive of tuberculosis meningitis.

DR. TULLIS: Although the outlook is discouraging in these patients, it is still of importance that we make the diagnosis when it exists. Regarding the India ink preparation and similar procedures, I wonder if Dr. Michelson would comment on its sensitivity as a test and on the pitfalls or precautions in technique. I'm interested especially in how well he would expect it to compare with the culture procedure which delays diagnosis weeks.

DR. I. D. MICHELSON: I am not certain as to the exact relative sensitivity of the India ink preparation and cultural methods, though certainly confirmation by culture should almost always be possible after a positive direct demonstration. India ink preparation should be examined immediately to avoid artefacts resulting from drying. Halos may be seen around white blood cells, thus the demonstration of a budding form makes one more certain. The finding of these spherical, thick-walled and widely encapsulated budding organisms in cerebrospinal fluid is for practical purposes diagnostic for *Cryptococcus neoformans* infection.

DR. TULLIS: Thank you, Dr. Michelson. This has been worth-while discussion on an interesting problem and one which is being diagnosed more and more frequently. I concur in Dr. Lasater's opinion that we should begin treatment with Actidione and polymyxin B promptly in this patient. Please let us have a follow-up report on this patient in a few weeks.

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# President's Letter

## YEAR END MISCELLANY



DR. TRABUE

The Headquarters Building of the Tennessee State Medical Association is nearing completion and we expect to get occupancy, as scheduled originally, close to the first of the year. It will be a very good looking, one story, brick veneer, modern style building at the corner of Hayes Street and Louise Avenue in Nashville. The Board of Trustees believe that the building will pay for itself within a relatively short time in the matter of rental saved on office space. In addition, the Nashville Academy of Medicine will rent space from the T.S.M.A. Pay the staff and your new building a visit when you are in Nashville.

The first series of seminars in the new Postgraduate Education Program have been completed. It is only fair to say that these programs met with varying success: some being quite well attended and others not at all well attended. The Committee has worked very diligently in an effort to meet the requests of the profession at large as to subject matter, dates and localities. The 'faculty' has been carefully selected principally on the basis of ability to put on an informative and interesting program. The next series of seminars are planned for Johnson City, Maryville and Chattanooga during the week of March 26; for Crossville, Fayetteville, Dickson and Nashville during the week of February 21; and for Paris, Brownsville and Memphis during the week of March 12. You will be notified of the exact dates and it is hoped that the attendance will be improved in this second series. This is your program—give it a fair trial in order to see whether you like it and want it continued.

Dr. N. S. Shofner has resigned as Chairman of the Prepaid Insurance Committee. We are sorry that he feels he must relin-

quish this important post but he certainly deserves an 'honorable discharge' and our grateful thanks for the many years of hard work and the success his committee has attained. The Tennessee Plan is considered one of the best medical care plans in the country and there are now almost a million policyholders covered under the Tennessee Plan. During the long period of planning Dr. Shofner served as Chairman and he has continued to serve during the phenomenal growth of the plan. We are all grateful to him for his devotion to duty and for his wisdom in guiding the modification and growth of this important part of our activities. Dr. James Kirtley, of Nashville, has been appointed to succeed Dr. Shofner as Chairman of the Committee, and we have every confidence that this big and important job has passed into another capable set of hands.

A regional Legislative Conference was sponsored by the A.M.A. in Atlanta early in November. Not only was our Association well represented by members and staff in attendance but the Woman's Auxiliary was represented by their President, President-Elect and immediate Past President. We were well briefed on recent and anticipated legislation, and on the activities of the A.M.A. relative to this legislation. Incidentally, if you are tired of being opposed to things, perhaps you would like to ask your Congressmen to support the Jenkins-Keogh Bill. The House Ways and Means Committee has already voted approval of the principle of deferring taxes on certain amounts paid into annuity plans, and the bill will probably get to the floor of the House and Senate early in the new year.

WITH BEST WISHES FOR A MERRY CHRISTMAS AND A HAPPY NEW YEAR TO ALL.

A handwritten signature in cursive script, likely belonging to Dr. N. S. Shofner.

# THE JOURNAL

OF THE  
TENNESSEE STATE MEDICAL ASSOCIATION

Published Monthly

Devoted to the Interests of the Medical Profession of  
Tennessee

Office of Publication, 321-325 Doctors Building, Nashville,  
Tenn.

Acceptance for mailing at special rate of postage provided  
for in Section 1103, Act of October 3, 1917,  
authorized July 15, 1932.

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DECEMBER, 1955

## EDITORIAL

### CARDIAC ARREST

The newspapers have carried from time to time in recent years notices of dramatic instances of the saving of a life, as a result of cardiac massage. The drama associated with the opening of the chest wall of a presumably dead individual, and manually massaging the heart until rhythmical beating is restored, is understandably good newspaper copy.

That this method may soon be unnecessary, being replaced by an external electric cardiac pacemaker, is suggested by the recent writings of Zoll\* and his colleagues.

They have devised an instrument which can be applied to the chest wall, and by electric stimulation causes the ventricle to beat regularly in response to graded and

spaced electric stimulation, until an adequate and spontaneous ventricular rhythm appears.

In the recent report fourteen patients with Stokes-Adams syncopal attacks were treated with this external electric pacemaker device. In thirteen of these patients the method was successful in restoring adequate rhythmical ventricular contractions. A competent circulation was re-established and irregular ventricular tachycardia was prevented. In some instances a regular rhythm has been maintained for months following recovery, suggesting that Stokes-Adams syncope may subside.

In a later report Zoll† relates an even more diversified experience with the use of this method. Thirty-seven patients with Stokes-Adams syndrome were treated, the greater majority successfully so. Three patients with reflex vagal standstill were preserved by this method. Four patients had Stokes-Adams syndrome following drug intoxication, two following the use of digitalis, and two who had received procainamide. All four responded satisfactorily to the cardiac pacemaker. There were eight patients who suffered unexpected circulatory arrest following a surgical or diagnostic procedure. Of this group five responded successfully.

Zoll has outlined these procedures in the event of a major syncopal Stokes-Adams attack.

- (1) Emergency resuscitation.  
Slap the precordium.  
Cardiac puncture.  
Intracardiac epinephrine.  
Cardiac pacemaker.
- (2) For persistent ventricular standstill.  
Cardiac pacemaker.  
Sympathomimetic drugs.
  - (a) To arouse idioventricular rhythm-epinephrine.
  - (b) To maintain blood pressure—norepinephrine.
- (3) For frequent attacks.  
Drugs—
  - (a) To maintain idioventricular rate, ephedrine, epinephrine.

\*Zoll, P., Linenthal, A. J., Norman, L. R., and Belgard, A. H.: Treatment of Stokes-Adams by External Electric Stimulation of the Heart, Circulation 9:482 (April), 1955.

†Zoll, P. M., Linenthal, A. J., Norman, L. R., Paul, M. H., and Gibson, W.: External Electric Stimulation of the Heart in Cardiac Arrest, Arch. Int. Med. 96:639, 1955.

- (b) To prevent variations in conduction atropine.

To prevent ventricular irritability cardiac pacemaker.

In addition to the above procedures, the use of auxilliary measures, particularly nasal oxygen, is most important. For the treatment of ventricular fibrillation, the electric defibrillator, the use of potassium chloride and procaine or procainamide are also important. In addition, in the event normal rhythm is restored, careful monitoring is necessary to note the return of an arrhythmia, so that immediate corrective procedures can be instituted.

The potential for good of the electric cardiac pacemaker, on constant alert, in the busy operating suite of large hospitals, or its availability on the general services of such institutions, is great indeed and conceivably in the future may become a matter of standard equipment.

A. W.



#### WHERE IS SOCIAL SECURITY TAKING US?

In the November issue editorial comment was made on outright federal expenditures for medical care. In the same issue appeared comments on H.R. 7225, "the Social Security Amendments of 1955," which was "steam-roller" legislation passing the House by a vote of 372 to 31 in a matter of minutes. Those who have not read the President's Page and the Organizational News on the yellow page in the November issue of the JOURNAL are urged to do so and to heed the advice given.

What have these two apparently unrelated subjects discussed in last month's JOURNAL in common? They are two facets of socialism whose advance in recent years has been almost as inexorable as the car of the Juggernaut.

The first socialistic moves in our country were the tax-supported public schools by the Company of the Massachusetts Bay in New England in 1636, and the Post Office Department, with Benjamin Franklin as Postmaster-General, by the Second Continental Congress in 1776, both in conflict with free enterprise in private schools and in postal services. In the intervening years other socialistic projects have been accepted

often over much opposition, witness our state universities and postal savings. Laws to protect our savings deposits, purchases on the stock market, home loans and aid to farmers have multiplied so rapidly in the past two decades that all of us are touched by at least one of these in some manner almost daily.

In the medical field socialism has been accepted in this country for a century in the care of the mentally ill, and for a half century in the care of the tuberculous in state institutions. The public health has been placed in the hands of government,—city, state or federal,—as well as many other matters of health cited in the previous editorial.

If some of these things are good, why not extend these benefits asks the intelligent sentimental socialist. Socialism has many definitions and therefore is difficult to define. However, its philosophy basically is that of giving an advantage to many rather than to few, and such a system must perforce control the means of the citizen's livelihood by the state. It is a far cry from the first public school or postal system to the welfare state which seems to be on the horizon. We accept most of the socialistic activities of our municipal, state and federal governments each day without a thought or a question. Where is the line to be drawn beyond which we can not look upon a socialistic move with equanimity?

To one who is neither a social scientist nor an economist, it would seem that the line is to be drawn at the point at which the law of diminishing returns negates the advantages to the many. Or, to put it in another way, when the initiative of the few is broken by the mountain of the advantages to the many. It may well be that Social Security by its continued extension and relaxation of its original provisions will gradually build the welfare state which breaks initiative.

We have commented in the past how unsound Social Security is actuarially speaking. In Social Security taxes, six billion dollars are collected annually, five billion being paid out to beneficiaries. The money collected in Social Security taxes and not spent on the beneficiaries of the Old Age



and Survivors Insurance Trust Fund is spent on general governmental expenditures. Thus there is no Fund but, it is said, there are about 21 million dollars of IOU's (government bonds and "special obligations") in lieu of reserves. The interest on these IOU's is estimated to be 450 million dollars annually, paid out of general revenues obviously by the same people who pay the Social Security taxes. It is said that governmental actuaries admit that the liabilities under Old Age and Survivors Insurance Trust Fund are about an unfunded 279 billion dollars in addition to the 21 billion "funded" by the IOU's, the total being greater than the national debt. Would any insurance commissioner agree to such shady business?

Now comes H.R. 7225 to provide monthly cash benefits for permanently and totally disabled workers at age 50 or over. In terms of the financial aspects discussed this extension staggers the imagination. The obligation must finally be met, clearly not by Social Security taxes but by general and income taxation on the next generation. This is Karl Marx's *redistribution of wealth* and with it must come the break in the initiative of the few and then the advantages of the many will become the losses of all. When the initiative of the few and free enterprise go out the window, governmental ownership must come in the door. Governmental waste and inefficiency then can result only in a lowered standard of living.

No wonder Mrs. Oveta Hobby, while still Secretary of Health, Education and Welfare, said of H.R. 7225, it "raises many basic and complex issues with respect to the future of the Old Age and Survivor Insurance System. We strongly believe that it is both desirable and necessary to give all interested persons and groups an opportunity to study the proposed changes in OASI to formulate their views and to give testimony."

The present Secretary of HEW, Mr. Folsom has said, "Our Social security system has remained sound because Congress has rejected proposals that might weaken or destroy it. We must always be careful that proposals for new benefits will preserve the essential justice and strength of the system. We must remember there is

a limit to the social security taxes the people may be willing to pay to support the system in all the years ahead. . . . I hope we will never accept the philosophy that the one and only best answer to every one of our problems and needs is automatically more and bigger federal government. There should be federal concern, yes. But the people should always consider whether it is federal action that is most needed, and whether federal action actually would be the most effective. The people should consider whether individual effort and private enterprise, or local or state government close to the people, can accomplish more real and long-range results for all of us. . . ."

These are warnings even in government that all citizens should heed. These and the implications with reference to medical practice of the H.R. 7225, outlined by our President in the November issue, make it mandatory for each of us to help stop this bill in the Senate.

R. H. K.



#### THE END OF THE YEAR AND INCOME TAX TIME

This is the time of the year to make those adjustments which will reduce your income tax. It is only by gifts that you can reduce the tax dollars. Why not give money to those projects in which you as a doctor have interest, rather than to Uncle Sam?

If the medical schools continue to remain in financial straits it will be only a matter of time until governmental subsidy will be needed to keep their doors open. And when that happens government will soon dictate educational policies, size of classes, and a rigid budget. Many of our medical schools became great through private philanthropy. We hope they will remain so through tax subsidy at the State level, and through continued private philanthropy from the hands of many. The American Medical Education Foundation has been publicized on these pages in the past. If you wish your medical school to continue free of government control, send your check to the A.M.E.F. at the address of the American Medical Association. Your contribution may be earmarked for your Alma Mater. "Remember every

dollar you give your A.M.E.F. goes to the medical schools."

Then let us turn to our own Tennessee Medical Foundation. This also has been well publicized in our JOURNAL. It is the arm of the Tennessee State Medical Association which permits a constructive attack upon medical problems which trouble laymen and communities. The fact that organized medicine stands ready to offer assistance in these problems is one of the best forms of public relations. In the past year the greatest impetus to the Foundation in its life-span has been given by the membership drives of the Women's Auxiliary. The women have done an excellent job. (Just recently the members of the Women's Auxiliary of the Tri-County Medical Society enrolled a large percentage of their husbands.)

Only a few days remain before the end of the year. Write your checks now. Keep the medical schools your sons and grandsons will attend free of governmental meddling. Help the ladies of your Women's Auxiliary in their efforts to keep Tennessee medicine moving.

R. H. K.

## DEATHS

**Dr. Richard McIlvaine**, 61, Knoxville, died suddenly at his home on October 25th as the result of a heart attack.

**Dr. Charles Lowery Hill**, 88, Nashville, died November 7th at his home. He was one of the oldest practicing physicians in Tennessee.

## PROGRAMS AND NEWS OF MEDICAL SOCIETIES

### Knoxville Academy of Medicine

The Society held its regular meeting on November 8. The program consisted of the annual election of officers. Dr. J. Gilbert Eblen was named President-Elect for 1957. Dr. Leon J. Willien was elected Vice-President, and Dr. Ralph Monger was re-elected Secretary-Treasurer. Dr. B. M. Overholt was installed as president for 1956, succeeding Dr. E. Charles Sienknecht.

### Nashville Academy of Medicine and Davidson County Medical Society

The regular meeting was held in the Mid-State Baptist Hospital, preceded by dinner. The scientific program consisted of a paper by Dr. J. Lynwood Herrington on "Marginal Ulcer—Problems in Surgical Management," and "Case Report on Psittacosis" by Dr. Lee Cayce.

In addition, a pertinent discussion of liability and malpractice insurance problems was given by Mr. William Moody, attorney for the Davis & Corson Company. Nominations for officers for 1956 were made.

### Chattanooga-Hamilton County Medical Society

The scientific program of the November meeting consisted of a panel discussion on "Anemia." The moderator was Dr. John W. Adams; Dr. Maurice S. Rawlings discussed "Medical Aspects"; Dr. Minnie Vance discussed "Pediatric Aspects"; Dr. Arch Bullard, "Obstetrical Aspects"; and Dr. Gus Vlasits discussed "Surgical Aspects." The Annual Dinner Dance for the Society was held at the Fairyland Club on November 16.

### Consolidated Medical Assembly of West Tennessee

The Society held its regular dinner meeting in the New Southern Hotel on November 1. The scientific program consisted of a paper by Dr. Theodore F. Middleton of Mobile, Alabama, on "Acute Dilation of the Stomach in Obstetrics and Gynecology." It was discussed by Dr. Roy Douglass.

### Memphis-Shelby County Medical Society

The Society held its regular monthly meeting on October 4 in the Institute of Pathology Auditorium. The scientific program was on the subject of "Treatment Today." Subjects presented were: "Hypophysectomy for Malignancy and for Diabetes" by Dr. W. S. Ogle, and discussed by Drs. Nicholas Gotten and Robert McBurney; "Agammaglobulinemia" by Dr. A. H. Tuttle, discussed by Drs. D. B. Morrison and Robert McBurney; "Correction of Severe Crushing Injuries of the Face" by Dr. McCarthy De-



Mere, discussed by Drs. Milton Adams, Moore Moore, J. E. Whiteleather, Dan Fisher, D. H. Anthony and L. K. Haynes.

### Roane County Medical Society

The regular meeting for October did not include a scientific presentation. The meeting consisted of a dinner dance for members and their wives and was held at the Deane Hill Country Club on Saturday, October 22.

### Rutherford County Medical Society

The Society's monthly meeting was held on November 2 at the Rutherford Hospital. "Congenital Heart Disease" was the subject for discussion and it was sponsored by the Middle Tennessee Heart Association. Dr. Gordon Sell and Dr. Rollin A. Daniel, Jr., of Nashville were on the program. Arrangements for the meeting were made by Dr. Charles K. Rath.

### Bedford County Medical Society

The meeting of the Society was held on October 20 at the Bedford County General Hospital. Dr. H. William Scott, Jr., Dr. Crawford Adams, and Dr. James A. Kirtley, Jr., all of Nashville, were speakers on the program. The scientific presentation was sponsored by the Middle Tennessee Heart Association.

### Greene County Medical Society

The Society held its regular meeting on October 27 at the Round Table Restaurant. The program consisted of a Postgraduate Education Symposium on "Jaundice." The presentations were made by Dr. L. W. Diggs, Memphis, Dr. Harrison Shull, Nashville, and Dr. J. Hughes Chandler of Jackson.

### Robertson County Medical Society

The Society held its regular monthly meeting at the Hospital. Dr. Hershal Graves, Jr., Nashville, gave a paper on "Malignant Conditions of the Breast." The Society also held its election of officers. Dr. Carroll M. Looney was elected President, Dr. J. E. Wilkinson, Vice-President, and Dr. John S. Freeman was re-elected Secretary-Treasurer.

## NATIONAL NEWS

### Magazine Makes Survey of Fees

Are surgical fees too high?

Newspaper stories might lead you to think they're way out of line with other medical costs. But a survey of *Medical Economics*, published in its November issue, indicates they are lower than most people think.

The national business magazine for doctors surveyed nine representative trading areas from New Haven, Conn., to Portland, Ore., each with an average population of 500,000. It concluded that "median fees in each area were modest . . . a lot more reasonable than some men in medicine suspected."

Among other things, the magazine learned that "fees tend to be a bit lower in the East than in the West. For an appendectomy," it says, "the median fee in the East Coast's New Haven and Albany, N. Y., areas is \$125. In the West's Denver, Colo., and Portland areas, it's \$150."

*Medical Economics* also found that "certified men tend to charge only slightly more than non-certified men for the same procedures." In three of the nine surveyed areas, in fact, the magazine discovered that they charge less for a cholecystectomy.

A third interesting finding, says the business magazine, was that "older, more experienced men tend to charge substantially more than their younger colleagues." Doctors who have been doing surgery for ten years or more usually charge at least 10 per cent more than their juniors. And for "difficult procedures," reports the article, "Surgical Fees Today," "the older men's usual fees run up to 100 per cent higher."

### What's Ahead in Medical Legislation

If advance signs mean anything, the Eisenhower Administration next year can be expected to ask Congress for substantially more money for medical research, both direct research by scientists on the U. S. pay roll and grants to others.

Currently the federal government is spending more money on medical research than at any time in history—almost \$98 million through the National Institutes of Health alone. In addition, other millions are being spent on medical research in the Department of Defense, Veterans Administration and other agencies. Much of it is difficult to isolate in the federal budget.

A special committee named by the National Science Foundation at the request of former Secretary Hobby has been at work for some time on an appraisal of HEW's medical research programs. Its report, due before the reconvening of Congress, should be valuable to both the administration and the appropriations committees.



A few examples of what is happening this year: National Cancer Institute has \$24.8 million to spend, about three million more than last year, with two-thirds going out in grants to non-federal researchers. National Heart Institute also is working on a much more liberal budget, \$18.7 million in contrast to last year's \$16.6 million. Because of the spectacular publicity now being given to heart research as a consequence of President Eisenhower's illness, it is a foregone conclusion that next year this institute will get a great deal more money.

The Mental Health Institute is profiting by the largest single increase of any research operation, almost \$4 million, from \$14.1 to \$18 million. Here again the prospects are for a substantial increase next year; problems of mental health are receiving much public attention, a situation that will not be ignored by Congress. Furthermore, the nation-wide survey of mental health problems now about to get under way will point up the shortcomings in mental health research, and be an additional argument for more U. S. dollars.

All the other research institutes also shared in last session's Congressional generosity. The Institute of Arthritis and Metabolic Diseases has about \$2.5 million more, \$10.7 million instead of the \$8.2 million of last year. The Institute for Neurological Diseases and Blindness went from \$7.6 million to \$9.86 million, the Microbiological Institute from \$6.1 million to \$7.5 million, and the Dental Health Institute from \$1.9 to \$2.1.

As has been customary with recent Congresses, Senate and House this year actually voted more money for medical research than the Bureau of the Budget permitted Public Health Service to request. That may not be the situation when appropriation bills come up next session. Secretary Folsom of the Department of Health, Education, and Welfare did not take office until Congress was about to adjourn last summer, but since then he has repeatedly gone on the record in favor of even greater U. S. expenditure for research. In October Mr. Folsom declared:

"... Today we find new problems and new opportunities. We find that heart disease, and cancer and arthritis, are taking an increasing toll. And so today as a nation we are changing our lines of battle to fight this increase in chronic and major diseases. All the facts point to one great need. It is the need for more research—to learn how these chronic diseases are started, so they can be prevented; to learn to detect them in the early stages so they can be cured..."

Again in November, addressing a conference on antibiotics, Mr. Folsom struck the same key, only this time more firmly. After noting that the U. S. now is spending over 12 times more on medical research than it was spending in 1946, he declared: "We must seriously consider making even more funds available for medical research to bring even greater benefits to humanity."

## A.M.A. Releases Report on County Medical Societies

A study of the size and character of county medical societies within the state associations has been released by the Bureau of Medical Economic Research of the A.M.A.

The study was made by request to assist state associations in any contemplated reorganization of their component societies. The study shows that the average number of members in county societies is 21. It reveals that 30 state medical associations have engaged extensively in combining small counties into larger component societies. Of the 18 states which have not created combination societies, eight have virtually no small counties. There are 127 counties in the nation with less than five members.

## MEDICAL NEWS IN TENNESSEE

### American College of Cardiology

More than 100 physicians from throughout the United States and Canada convened at the Claridge Hotel in Memphis on November 10-12 where the American College of Cardiology held its fourth interim meeting.

Outstanding specialists in the field of cardiology presented scientific papers. Among the eminent men on the program were Dr. C. Walton Lillehei, associate professor of surgery at the University of Minnesota. Dr. I. Ralph Goldman of Memphis was Chairman of local arrangements.

### Southern Medical Association

Eighty-five Tennessee physicians attended the 49th Annual Meeting of the Association in Houston last month. They were part of the over 2,500 physicians who attended the meeting which had a total official registration of about 5,000. These Tennessee members had the opportunity of attending the sessions of the twenty specialty sections representing the major medical and surgical specialties in general practice, and the scientific exhibits. The Southern Sections of a half-dozen national associations had joint or conjoint meetings at the same time. Nineteen medical school alumni and fraternity groups had dinners. The next annual Session, the Golden Anniversary of the Southern Medical Association, will be held

in Washington, D. C., November 12 to 15, 1956. The concept of the Association developed in the Nashville Academy of Medicine. Dr. Giles C. Savage, President of the Tennessee State Medical Association, called the organizing meeting of representatives of several southern states which was held in Chattanooga, at the Read House on October 2, 1906. Tennessee was represented by Doctors A. B. Cooke, J. L. Crook and S. R. Miller.

### East Tennessee Heart Association

More than 200 physicians from Tennessee, Kentucky and Virginia attended a meeting sponsored by the East Tennessee Heart Association at the Andrew Johnson Hotel in Knoxville on November 9. The use of drugs primarily in the treatment of myocardial infarction and in other cardiovascular disorders was discussed by Dr. I. Frank Tullis, professor of medicine at U. T., Memphis. Other guest speakers included Dr. Edward Stewart Orgain, professor of medicine at Duke University, Dr. Gene H. Stollerman, assistant professor of medicine at Northwestern University, and Dr. Harold Gorenberg, Chief of the Cardiac Clinic, Margaret Hague Maternity Hospital, Jersey City, N. J.

### Middle Tennessee Medical Association

The Middle Tennessee Medical Association held its semiannual meeting in Fayetteville on November 17. Approximately 60 physicians were present. A dinner and social hour was conducted at the Elks Club. Dr. Daniel R. Gray, Jr., of Columbia was named President-Elect. It was decided that the Spring meeting for 1956 would be held in Sparta and the Fall meeting in Columbia.

The scientific program consisted of the following: "Indications for Thoracic Surgery in Infants and Children" by Dr. George W. Holcomb of Nashville; "Jaundice in the Newborn" by Dr. W. B. Wadlington, Donelson; "Surgical Aspects of Regional Enteritis" by Dr. Lynwood Herrington of Nashville; "Neoplasms of the Genito-Urinary Tract" by Dr. Robert E. McClellan of Nashville; "Diagnosis and Neurosurgical Management of Extruded Lumbar Disc" by Dr. Arnold Meirowsky of Nashville; "Cat Scratch Disease" by Dr. L. J. Stubblefield of

Huntland; "The Medical Management of Hypertension" by Dr. William Fuqua of Columbia; and Early Detection and Treatment of Congenital Hip Disorders in Children" by Dr. William Hillman of Nashville.

### Heart Group Offers Class for Nurses

The Tennessee Heart Association has supported a Nurse Institute which was conducted at Holston Valley Community Hospital at Kingsport. Dr. R. B. Wood, Knoxville, President-Elect of the Tennessee Heart Association, spoke on "Congestive Heart Failure." Dr. Fred V. Vance, Jr., Bristol, spoke on "Medical Aspects of Rheumatic Fever." A discussion of "Nursing Aspects of Rheumatic Fever and Congestive Heart Failure" ended the program.

### University of Tennessee College of Medicine

Four Memphis physicians have been appointed to the staff. Appointed as assistants were: Dr. Prentiss Turman, division of obstetrics and gynecology; Dr. Joseph H. Erock, division of surgery; and Dr. Marvin L. Wolff, division of medicine. Dr. Louis P. Britt was appointed instructor in the department of orthopedic surgery.

The following promotions have been announced: Dr. Norman Lee, lecturer in the division of chemistry, promoted to assistant professor; Dr. S. Gwin Robbins, from instructor to assistant professor; and Dr. Robert P. McBurney, from assistant to instructor in surgery; Dr. F. S. Dietrich and Dr. S. Fred Strain, from assistant professor to associate professor in the division of medicine, and Dr. Thurman Crawford, Dr. J. Warren Kyle, Dr. Hall S. Tacket, and Dr. Otis Warr, from instructor to assistant professor in medicine.



Dr. Jesse D. Perkinson, Jr., associate professor of chemistry, has been awarded a \$5,940 research grant by the Atomic Energy Commission. Dr. E. H. Storer of the Department of Surgery, has been awarded a \$2,800 grant from Abbott Laboratories to be used to evaluate the clinical applications of the Zilversmit intravenous fat emulsion, and a \$7,400 grant from the U. S. Public Health Service for the study of gastric se-



cretory physiology in the experimental animal. Dr. Donald B. Zilversmit, of the department of physiology, has been awarded a \$7,040 grant from the Life Insurance Medical Research Fund to continue studies of the disturbances of fat metabolism in arteries of animals which have been made arteriosclerotic, and a \$9,441 grant from the U. S. Public Health Service to extend the studies to other animals which are not susceptible to the disease. Doctors J. P. Quigley, H. Louckes and D. A. Ross of the department of physiology, received a research grant of \$8,474 from the U. S. Public Health Service, to continue studies on the basic mechanism of gastric evacuation. Two other grants totaling \$49,997 have been awarded by the U. S. Public Health Service. A \$25,000 grant will make it possible for the college to strengthen the training program in the field of neurology. A \$24,997 grant will be used to intensify teaching in diseases of the heart and blood vessels.

### Vanderbilt University School of Medicine

A dinner honoring Dr. Ernest W. Goodpasture, Professor Emeritus of Pathology, was held on November 18. Dr. Goodpasture retired as Head of the Department of Pathology July 1, 1955, and is now scientific director at the Armed Forces Institute of Pathology. Dr. Charles S. Robinson, Professor Emeritus of Biochemistry, presided at the dinner.

★

The Abraham Flexner Lectureship will be held this year by Dr. J. Harold Burn, Department of Pharmacology, Oxford University, England, who will give a series of seven lectures during January and February on various aspects of pharmacology. A symposium on pharmacology is also planned during this period.

★

Among recent guest lecturers were: Dr. Francisco Ruiz-Sanchez, Professor of Medicine, University of Guadalajara, Guadalajara, Mexico, who gave a lecture on typhoid fever, on November 9; Dr. Ian McMillan, of St. Thomas Hospital, London, England, who on October 19 gave a lecture and showed some remarkable films on the motion and function of heart valves from inside the

heart chambers correlating them with physical science and clinical abnormalities; and Dr. A. J. Lorenz, Director of Nutritional Research for Sunkist Growers, California, who spoke on "Scurvy in the Gold Rush," before the Vanderbilt Society of Historical Medicine (a student organization) on November 8.

★

The School has been the recipient of a continuing annual scholarship of \$1,000.00 from the Life and Casualty Insurance Company of Nashville. The company gave this in the interest of better public health and as part of the company's civic responsibility to make it economically possible for students of promise to complete their medical education. These are given on the condition that the recipient assumes the moral obligation of providing a similar scholarship.

## PERSONAL NEWS

**Dr. Robert A. Waters**, Chattanooga, has been certified by the American Board of Neurological Surgery.

**Dr. Albert Weinstein**, Nashville, addressed the Business and Professional Women's Club of Springfield on October 27.

**Dr. William M. Davis** has announced the opening of his office for the practice of medicine in the Medical Building in Decatur.

**Dr. Stewart Lawwill, Jr.**, of Chattanooga, has been admitted as a diplomate of the American Board of Ophthalmology.

**Dr. Robert N. Buchanan, Jr.**, Nashville, was the recent speaker before the Tennessee Association of Nursing Homes, at their Annual Convention.

**Dr. Crawford W. Adams, Dr. Harris Riley, Dr. James J. Callaway, Dr. Robert W. Quinn, and Dr. Rollin Daniel**, all of Nashville, were recent participants in a public forum on rheumatic fever held in Nashville.

**Dr. James W. Polk**, Union City, has been inducted as a fellow of the American College of Surgeons.

**Dr. R. Hyatt Brown, Dr. William Harrison and Dr. Robert Doty**, all of Kingsport, have been named officers of the medical staff of the Holston Valley Community Hospital.

**Dr. Moore J. Smith, Jr.**, Chattanooga, recently addressed the Physicians' Assistants Association of that city.

**Dr. E. Converse Pierce II**, Knoxville, recently lectured on Cancer at the Dora Kennedy Community Club.



**Dr. Bernard Tepper**, Chattanooga, spoke on heart disease before the Optimist Club.

**Dr. R. Eustace Semmes**, Memphis, was recently honored for his long service in the field of neurosurgery at the University of Tennessee.

**Dr. Bland W. Cannon**, Memphis, was elected President of the Congress of Neurological Surgeons.

**Dr. W. R. Arrants**, Athens, recently received a special attendance award at the Interstate Postgraduate Medical Association in Milwaukee, having attended more than ten meetings since 1940.

**Dr. James T. Ladd** announced the opening of his office for the practice of medicine at Portland.

**Dr. John E. Cox**, Memphis, recently gave a report before the American College of Gastroenterology.

**Dr. Maurice Pruitt**, Chattanooga, was a recent speaker before the National States Conference on Alcoholism.

**Dr. Howard W. Whitaker**, Savannah, has been elected to the American Medical Writers Association.

**Dr. L. W. Nabers**, Morristown, recently attended the Fellowship meeting of the Mayo Clinic and the American College of Surgeons meeting.

**Drs. L. Henning Mayfield, Fontaine B. Moore, Jr., Frank W. Smythe, Jr., Elmer W. Snyder, Jr.**, of Memphis, **Dr. Charles K. Rath** of Murfreesboro, **Dr. Frederick G. McConnell** of Kingsport, **Dr. John G. Riddler** of Jackson, and **Dr. Frank B. Graham** of Chattanooga, have been elected as fellows of the American College of Surgeons.

**Dr. Robert F. Thomas**, Sevierville, was the subject of a recent news article for outstanding medical achievement.

**Dr. J. W. Danley**, Lawrenceburg, was the speaker before the Lawrence County Historical Society.

**Dr. M. S. Roberts**, Knoxville, was recently honored for fifty years of practice of medicine.

**Dr. C. L. Holmes**, Jackson, has announced the opening of his office for the practice of medicine and surgery.

**Dr. Herbert G. Giddens**, Paris, announces the moving of his office to the McSwain Clinic.

**Dr. Joe Henderson, Jr.**, Maryville, was a recent speaker before the Optimists Club.

**Dr. Duvall H. Koonce**, Jackson, has joined **Dr. G. B. Wyatt** for the practice of internal medicine.

**Dr. W. H. Stallings**, Medical Director at Milan Arsenal, has retired.

**Dr. Sam Sullenberger**, Dandridge, has been elected County Physician by the Jefferson County Court.

**Dr. Joseph J. Baker**, Nashville, has been appointed superintendent of the Davidson County Hospital.

**Dr. John J. Redmond** was elected President of the Memphis Obstetrical and Gynecology Society, **Dr. Henry Turner** was named Vice-President, **Dr. Lawrence C. Lewis**, Treasurer, and **Dr. William F. Mackey**, Secretary. All are from Memphis.

**Dr. R. P. Beasley**, Dickson, was the subject of a recent newspaper article.

## ANNOUNCEMENTS

### General Practice Meeting

The Eighth Annual American Academy of General Practice Scientific Assembly will meet March 19-22, 1956, in Washington. Highlights of the program include two live clinics, a symposium on obstetrics and an address by Surgeon General Leonard Scheele. Special tours through the National Institutes of Health, Bethesda, Maryland, have been arranged.

The Academy's policy-making Congress of Delegates will convene on March 17th. All sessions of the Congress and many social functions will be held in the Hotel Statler.

### Examinations for Fellows in I.C.S.

Four oral and four written examinations for Fellows in the United States Section of the International College of Surgeons will be conducted in 1956. Oral conferences will be held on January 23, April 16, August 6 and October 22. The written examinations will be conducted on January 30-31, April 23-24, July 23-24, and October 29-30. These will be held at the Cook County Hospital and Cook County Graduate School of Medicine, Chicago.

The next convocation of the International College of Surgeons will be held in connection with the 21st annual congress in Chicago, September 9-13, 1956. Candidates qualifying prior to August 11 will be eligible for induction.

### Immediate Opening for

SENIOR STAFF PHYSICIAN \$7,200-\$8,400

**Job Description:** Examines, diagnoses, and provides or supervises treatment and therapy for patients. Determines etiology and prognosis; prescribes medicines when required; performs surgery; performs autopsies; directs X-ray and fluoroscopic examinations, electroencephalography and related medical and technical procedures. Makes regular and special visitations to patients; keeps records, makes reports and performs other related medical duties.

**Qualifications:** Graduation from a medical school approved by the American Medical Association. Must have license to practice in Tennessee. Must be eligible to become a diplomate of the American Board of Psychiatry and Neurology.

**Locations:** East, Middle and West Tennessee.

Applications should be filed by July 8, 1955.

Send applications to:

DEPARTMENT OF MENTAL HEALTH  
Third Floor, Cordell Hull Building  
Nashville 3, Tennessee

# 1955 MEMBERS OF TENNESSEE STATE MEDICAL ASSOCIATION

The list of members of the Tennessee State Medical Association is published in compliance with a provision of the Constitution and By-Laws. The data are accurate as of December 10, 1955. They are arranged in the following order:

List of active members.

Counties arranged alphabetically.

**ANDERSON COUNTY**  
*Clinton*  
A. W. Bishop  
J. S. Hall  
Henry Hedden, Jr.  
John J. Smith  
Nathan B. Williams  
(Mem. Roane Co. Soc.)  
*Lake City*  
J. M. Cox  
R. B. Scott  
*Norris*  
S. G. McNeely  
*Oliver Springs*  
F. O. Stone  
**BEDFORD COUNTY**  
*Shelbyville*  
W. H. Avery  
James N. Burch  
W. L. Chambers  
A. L. Cooper  
Alfred Farrar  
Taylor Farrar  
Grace Moulder  
Carl Rogers  
Sara Womack  
**BENTON COUNTY**  
*Camden*  
J. Mansfield Bailey  
(Mbr. Humphreys Co.)  
A. T. Hicks  
R. L. Horton  
**BLEDSE COUNTY**  
*Pikeville*  
Thomas G. Cranwell  
(Mbr. Hamilton Co.)  
**BLOUNT COUNTY**  
*Maryville*  
Oliver K. Agee  
J. H. Bowen  
K. A. Bryant  
Henry A. Callaway  
Lea Callaway  
M. A. Carnes  
Mary D. Cragan  
W. C. Crowder  
Lynn F. Curtis  
W. N. Dawson  
R. H. Haralson  
Joe Henderson  
J. S. Henry  
Thomas Holder  
H. L. Isbell  
E. P. Kintner  
Beulah Kittrell  
Samuel S. Lambeth  
Ray Laughmiller  
Julian C. Lentz  
C. B. Lequire  
Robert L. Leven  
J. S. Lovingood  
J. F. Manning  
Jack Phelan  
James N. Proffitt  
B. P. Ramsey  
Trent Vandergriff  
Lowell E. Vinsant  
John Yarbrough  
**BRADLEY COUNTY**  
*Cleveland*  
D. N. Arnold  
Wesley A. Barton  
\*In Service

Marvin Batchelor  
Chalmers Chastam  
E. R. Ferguson  
Wm. A. Garrett  
C. S. Heron  
J. C. Lowe  
Joseph McCain  
Wm. I. Pionlin  
C. T. Speck, Jr.  
W. C. Stanbery  
S. J. Sullivan  
Claude H. Taylor  
Madison S. Trewhitt  
Gilbert Varnell  
**CAMPBELL COUNTY**  
*Caryville*  
Glas. Rogers  
*Jellico*  
C. E. Ausmus  
Robert L. Brown  
Charles A. Prater  
Ned C. Watts  
*La Follette*  
M. L. Davis  
P. T. Howard  
P. J. O'Brien  
J. W. Presley  
John C. Pryse  
R. C. Pryse  
James W. Riggs  
L. J. Seargeant  
**CANNON COUNTY**  
*Woodbury*  
William A. Bryant  
(Mbr. Rutherford Co.)  
Russell E. Meyers  
(Mbr. Rutherford Co.)  
**CARROLL COUNTY**  
*Bruceston*  
R. T. Keeton  
L. E. Trevathan  
*Huntingdon*  
R. A. Douglas  
R. B. Wilson  
*McKenzie*  
F. E. Edwards, Jr.  
J. T. Holmes  
*Trezevant*  
James E. Moxley  
James H. Robertson  
**CARTER COUNTY**  
*Elizabethton*  
R. J. Allen  
E. L. Caudill, Sr.  
E. L. Caudill, Jr.  
W. G. Frost  
E. T. Pearson  
Dillard Sholes  
James M. Willett  
**CHEATHAM COUNTY**  
*Ashland City*  
J. P. Glover, Jr.  
(Mbr. Davidson Co.)  
**CHESTER COUNTY**  
*Henderson*  
W. O. Baird  
\*H. D. Farthing  
Ernest P. Guy  
O. M. McCallum  
**CLAIBORNE COUNTY**  
*New Tazewell*  
H. C. Evans

(Mbr. Knox Co.)  
George L. Rea  
(Mbr. Knox Co.)  
**CLAY COUNTY**  
*Celina*  
Champ E. Clark  
(Mbr. Overton Co.)  
**COCKE COUNTY**  
*Newport*  
W. E. McGaha  
Drew A. Mims  
L. S. Nease  
Wm. B. Robinson  
Glen C. Shults  
R. B. T. Swann  
(Mbr. Davidson Co.)  
Fred M. Valentine  
Fred M. Valentine, Jr.  
**COFFEE COUNTY**  
*Manchester*  
Clarence H. Farrar  
J. Horace Farrar  
Howard A. Farrar  
Coulter S. Young  
*Tullahoma*  
R. L. Brickell  
Jack F. Farrar  
B. E. Galbraith  
Edwin E. Gray, Jr.  
J. M. King  
Edward Maurer  
Robert E. Merrill  
C. C. Snoddy  
Brvant S. Swindoll  
**CROCKETT COUNTY**  
*Alamo*  
E. O. Prather, Jr.  
*Bells*  
E. Farrow  
F. P. Hess  
Charles N. Hickman  
S. E. McDonald  
R. W. Mayfield  
**CUMBERLAND COUNTY**  
*Crossville*  
Paul A. Erwin, Jr.  
Wm. E. Evans  
Edward Hollenberg  
Donathan Ivey  
H. F. Lawson  
Robert M. Metcalfe  
M. M. Young  
*Pleasant Hill*  
Margaret K. Stewart  
**DAVIDSON COUNTY**  
*Donelson*  
Luther A. Beasley  
Robert B. Gaston  
C. N. Gessler  
Chas. H. Huddleston  
Luther E. Smith  
Wm. B. Wadlington  
*Goodlettsville*  
Roy R. Bowes  
R. L. Whittaker  
*Madison*  
Frederic B. Gothen  
Robt. L. Pettus, Jr.  
(Mbr. Roane Co.)  
Joe E. Sutherland  
Harry Wittum  
*Madison College*  
Julian C. Gant  
George E. Horsley

Towns in each county arranged alphabetically and the members in each town arranged alphabetically.

List of members residing outside the state arranged alphabetically.

List of veteran members.

List of members who have died in the year 1955.

David F. Johnson  
Gilbert H. Johnson  
Cyrus E. Kendall  
Naomi K. Pitman  
James D. Schuler  
*Nashville*  
Walter M. Adair  
Crawford Adams  
R. W. Adams, Jr.  
J. W. Alford, Jr.  
Clyde Alley  
Ben J. Alper  
W. L. Alsbrook  
Arthur R. Anderson  
Edwin B. Anderson  
H. R. Anderson  
James P. Anderson  
Joe D. Anderson  
Robt. S. Anderson  
J. J. Ashby  
G. F. Aycock  
Sidney W. Ballard  
Preston H. Bandy  
Edwin H. Barksdale  
Randolph Batson  
David S. Bayer  
Eric Bell, Jr.  
Lynch Bennett  
Edmund W. Benz  
Stanley Bernard  
John H. Beveridge  
Otto Billig  
F. T. Billings, Jr.  
Geo. T. Binkley, Jr.  
Russell Birmingham  
Lindsay K. Bishop  
James B. Boddie, Jr.  
Geo. W. Bounds  
Anna M. Bowie  
John M. Boylin  
H. B. Brackin  
H. B. Brackin, Jr.  
Cloyce F. Bradley  
G. Hearn Bradley  
T. F. Bridges  
Geo. B. Brothers  
M. F. Brown  
(Mbr. Lincoln Co.)  
J. Thomas Bryan  
John C. Burch  
Joseph G. Burd  
R. N. Buchanan, Jr.  
Roger B. Burrus  
B. F. Byrd  
B. F. Byrd, Jr.  
James I. Callaway  
Richard O. Cannon  
William J. Card  
B. K. Hibbert, III  
T. B. Hibbits, Jr.  
William Higginson  
Elmore Hill, D.M.D.  
I. R. Hillard  
John W. Hillman  
R. H. Hirsch  
J. Harvill Hite  
Geo. W. Holcomb  
Jr.  
A. N. Hollabaugh, Jr.  
Chas. F. Hollabaugh  
W. W. Hubbard  
Granville W. Hudson  
Vernon Hutton, Jr.  
M. D. Ingram, Jr.  
Albert P.  
Ischnour, Jr.  
J. McK. Ivey  
W. F. B. James  
John A. Jarrell, Jr.  
D. J. Johns  
Hollis E. Johnson  
Ira T. Johnson, Jr.  
Edmund P. Jones  
T. M. Jordan  
R. H. Kampmeier  
A. E. Keller  
J. Allen Kennedy  
Wm. G. Kennon, Jr.  
Lowry D. Kirby  
Carl T. Kirchmaier  
J. A. Kirtley, Jr.  
O. Morse Kochitzky  
Leonard J. Koenig  
Roland D. Lamb  
Leon M. Lanier  
Ralph M. Larsen  
Hector T. Lavelly, Jr.  
W. P. Law  
A. R. Lawson  
G. Allen Lawrence  
John M. Lee  
John J. Lentz  
Jas. D. Lester  
James P. Lester  
Milton S. Lewis  
Richard C. Light  
Rudolph Light  
John P. Lindsay  
Joanne Linn  
A. B. Lipscomb  
L. S. Love  
(Mbr. Putnam Co.)  
Jackson P. Lowe  
S. L. Lowenstein  
Frank H. Lutton  
Philip L. Lyle  
Robt. L. Magruder  
Guy Milford Maness  
W. R. Manlove  
Edw. H. Martin, D.D.S.  
Travis H. Martin  
Jas. Andrew Mayer  
Ben R. Mayes  
G. S. McClellan  
Robt. E. McClellan  
C. C. McClure  
C. C. McClure, Jr.  
Robt. L. McCracken  
C. S. McMurray  
Al Chas. McMurray  
Barton McSwain  
Wm. F. Meacham  
Arnold M.  
Meitrowsky  
Geo. E. Menecley  
Cleo M. Miller  
Lloyd C. Miller  
Harry T. Moore, Jr.  
John F. Moore  
Theodore Morford  
Hugh J. Morgan  
N. B. Morris  
P. G. Morrissey, Jr.  
M. K. Moulder  
Oscar G. Nelson  
E. V. Newman  
Oscar F. Noel  
D. Douglas Odell  
O. A. Oliver, D.D.S.  
Wm. F. Orr, Jr.  
James C. Overall  
Fred W. T. Overton  
Fred D. Ownby  
Homer M. Pace, Jr.  
Roy Wm. Parker  
Thomas F. Parrish  
Bernard Pass  
R. C. Patterson, Jr.  
C. Gordon  
Pecman, Jr.  
Edna S. Pennington  
George L. Perler  
M. A. Petrone  
David Pickens, Jr.  
Bruce P. Pool  
Samuel B. Prevo  
Chas. C. Randall  
James Seay Read  
E. M. Regen  
John R. Rice  
S. R. Reichman  
Greer Rickston  
Douglas H. Riddell  
Elkin L. Rippey  
S. S. Riven  
Ben H. Robbins  
Joseph D. Robert-son  
Miller Robinson  
Dan C. Roehm  
Marvin Rosenblum  
Louis Rosenfeld  
P. M. Ross  
Sam T. Ross  
Dan Sanders, Jr.



Houston Sarratt  
J. H. Sayers, Jr.  
Lawrence G. Schull  
Herbert J. Schulman

H. Wm. Scott, Jr.  
A. B. Scoville, Jr.  
George F. Seeman,  
D.D.S.

D. C. Seward  
John L. Shapiro  
Harry S. Shelley  
Wm. F. Sheridan,  
Jr.

N. S. Shofner  
H. H. Shoulders  
H. S. Shoulders  
Harrison J. Shull  
Ammie T. Sikes  
T. E. Simpkins

Chas. B. Smith  
Daugh W. Smith  
Henry C. Smith  
Marion L. Smith  
Robt. T. Smith  
Bertram Sprockin  
Daphne Sprouse  
Frank W. Stevens  
Hugh L. C. Stevens  
Joe M. Strayhorn  
W. D. Strayhorn  
Richard C. Stuntz  
Robt. E. Sullivan  
Wm. D. Sumpter, Jr.  
Arthur J. Sutherland

Richard P. Taber  
Wm. H. Tanksley  
G. T. Tarleton  
Pauline Tenzel  
Robert T. Terry  
C. S. Thomas  
John B. Thomason  
J. N. Thomasson  
W. O. Tirrill, Jr.  
Kirkland W. Todd,  
Jr.

C. C. Trabue, IV  
C. B. Tucker  
Harlin G. Tucker  
John M. Tudor  
J. J. Vaughn,  
D.D.S.

Wm. O. Vaughan  
Ethel Walker  
Matthew Walker  
James W. Ward  
Russell D. Ward

Thomas F. Warder  
Paul L. Warner  
R. J. Warner  
Thomas S. Weaver  
B. H. Webster  
Albert Weinstein  
Bernard Weinstein  
Frank E. Whitacre  
Joe T. Whitfield  
W. W. Wilkerson,  
Jr.

Earl E. Wilkinson  
Claiborne Williams  
Edwin L. Williams  
W. Carter Williams  
(Mbr. Smith Co.)  
Frank G. Witherspoon

Jack Witherspoon  
Frank C. Womack  
C. C. Woodcock  
M. C. Woodfin  
T. Volney Woodring  
John R. Woods  
John L. Wyatt  
R. E. Wyatt

John B. Youmans  
Kate Savage Zerfoss  
Thomas B. Zerfoss  
Thos. B. Zerfoss, Jr.

*Old Hickory*

T. D. Dailey  
E. P. Johnson  
James K. Lawrence  
R. P. Miller  
E. B. Rhea  
W. W. Wilson

*Old Hickory*

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E. P. Johnson  
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W. W. Wilson

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James K. Lawrence  
R. P. Miller  
E. B. Rhea  
W. W. Wilson

*Old Hickory*

T. D. Dailey  
E. P. Johnson  
James K. Lawrence  
R. P. Miller  
E. B. Rhea  
W. W. Wilson

*Old Hickory*

## DEKALB COUNTY

### Alexandria

Odell Mason  
(Mbr. Smith Co.)

## DICKSON COUNTY

### Charlotte

Mary Baxter Cook  
\*James C. Elliott

### Dickson

R. P. Beasley  
W. A. Bell, Jr.  
W. A. Crosby  
J. T. Jackson  
Lawrence C. Jackson  
W. M. Jackson

## DYER COUNTY

### Dyersburg

W. E. Anderson  
J. Paul Baird  
Thos. V. Banks  
James W. Bonds  
Percy A. Conyers  
Thomas W. Johnson  
Robert T. Kerr  
O. B. Landrum  
\*Joe Moody  
J. B. Moody  
J. C. Moore  
J. H. Nunn  
J. G. Price  
R. David Taylor  
W. I. Thornton, Jr.  
Lydia V. Watson

### Newbern

J. T. Fuller  
Wm. L. Phillips

### FAYETTE COUNTY

### Oakland

L. D. McAuley

### Somerville

John L. Armstrong  
Frank S. McKnight  
John W. Morris  
Wm. F. Outlan  
Lee Rush, Jr.

## FENTRESS COUNTY

### Jamestown

R. E. Craven  
Guy C. Pinckley  
J. Peery Sloan

## FRANKLIN COUNTY

### Cowan

Paul Shakespeare

### Decherd

P. J. Flippin

### Huntland

L. J. Stubblefield  
(Mbr. Lincoln Co.)

### Sewanee

Ruth A. Cameron  
Charles B. Keppeler  
E. W. Kirby-Smith  
H. T. Kirby-Smith

### Winchester

Jo C. Anderson  
Reynolds Fite  
George L. Smith

## GIBSON COUNTY

### Dyer

F. Douglass  
John W. Ellis

### Humboldt

H. G. Barker  
Chas. W. Davis  
A. H. Fick  
James M. Hudgins  
J. W. Oursler

## HAMILTON COUNTY

### Chattanooga

Chester Adams  
John W. Adams  
Wallace Alexander  
C. H. Alper  
E. R. Anderson  
Harry S. Anderson  
J. J. Armstrong  
I. L. Arnold  
Merton Baker  
Robert E. Baldwin  
C. H. Barnwell  
H. B. Barnwell  
S. H. Barrett  
W. R. Bishop  
Robert J. Boehm  
Walter E. Boehm  
F. B. Bogart  
J. W. Bradley  
Frank S. Brannen  
I. C. Brooks, Jr.  
Reid L. Brown  
James Y. Bryson  
Arch H. Bullard  
E. F. Buchner, Jr.  
W. R. Buttram  
W. R. Buttram, Jr.  
John R. Cain  
James L. Caldwell  
Earl R. Campbell  
Maurice A. Canon  
E. E. Carrier  
John P. Carter  
Douglas  
Chamberlain  
Cleo Chastain  
O. H. Clements  
George E. Cox  
John M. Crowell  
Tolbert C. Crowell  
Doyle E. Currey  
J. Tom Currey  
O. M. Derryberry  
Robt. G. Demos  
James F. Dietrich  
Paul H. Dietrich  
Richard B.  
Donaldson  
Albert S. Easley  
A. F. Ebert  
Robt. E. Eyssen  
J. R. Fancher  
E. Marlin Fitts  
Richard Van  
Fletcher  
A. C. Ford  
Shelton F. Fowler  
Guy M. Francis  
J. E. Frazier  
J. Marsh Freer, Jr.  
\*J. Marsh Freer, Jr.  
O. C. Gass  
G. C. Gibson  
Robt. H. Giles, Jr.  
E. Wayne Gilley  
Dean W. Golley  
Paul M. Golley  
Kenneth M. Gould  
Frank B. Graham  
Joseph W. Graves  
O. D. Groshart  
F. Russell Hackney  
Alton G. Hair  
R. I. Hall  
Foster Hampton, Jr.  
Frank F. Harris  
E. F. Harrison  
Carl A. Hartung  
Chas. W. Hawkins  
Freeman C. Hays  
Robt. S. Hellman  
Raymond D.  
Henderson  
H. B. Henning  
George Henshall  
Homer D. Hickey  
\*John M. Higginbotham  
J. M. Higginbotham  
J. F. Hobbs  
Richard G.  
Hofmeister

### Rutherford

W. F. Bell  
(Mbr. Obion Co.)

### Trenton

Edw. C. Barker  
E. C. Crafton  
James W. Hall  
M. D. Ingram  
W. C. McRee

## GILES COUNTY

### Ardmore

D. I. Strickler, Jr.

### Bethel

L. A. Edmondson

### Pulaski

Robert B. Agee  
J. H. Hite, Jr.  
W. J. Johnson  
K. M. Kressenburg  
Roy W. Money  
W. K. Owen  
J. U. Speer  
D. M. Spotwood

## GRAINGER COUNTY

### Rutledge

L. C. Bryan  
(Mbr. Knox Co.)

### Washburn

Robt. J. Phlegar  
(Mbr. Knox Co.)

## GREENE COUNTY

### Greeneville

V. R. Bottomley  
Robert Brown  
M. K. Butler  
L. E. Coolidge  
R. S. Cowles, Sr.  
\*Robt. S. Cowles,  
Jr.  
N. H. Crews  
L. E. Dyer  
\*G. C. Ekvall  
Luke L. Ellenburg  
Haskell W. Fox  
R. B. Gibson  
J. G. Hawkins  
Hal Henard  
N. P. Horner  
Robert Keeling  
C. B. Laughlin  
Haskell McCollum  
W. Lewis McGuffin  
R. W. McMullen

### Mosheim

Dale Brown

## GRUNDY COUNTY

### Coalmont

L. F. Littell  
(Mbr. White,  
Warren, Van  
Buren Co.)

## HAMBLETON COUNTY

### Morristown

Howard T. Brock  
John D. Caldwell  
J. K. Cooper  
Kemp Davis  
C. J. Doby  
G. I. Hislop  
Y. Alvin Jackson

John Kincaid  
F. J. Little, Jr.  
E. Gene Lynch  
Harold B. Marble  
Cecil I. Myrnat, Jr.  
L. W. Nabers  
John L. Pearce  
R. A. Purvis  
J. W. Richardson  
\*Powell Trusler  
D. J. Zimmermann

## HAMILTON COUNTY

### Chattanooga

Chester Adams  
John W. Adams  
Wallace Alexander  
C. H. Alper  
E. R. Anderson  
Harry S. Anderson  
J. J. Armstrong  
I. L. Arnold  
Merton Baker  
Robert E. Baldwin  
C. H. Barnwell  
H. B. Barnwell  
S. H. Barrett  
W. R. Bishop  
Robert J. Boehm  
Walter E. Boehm  
F. B. Bogart  
J. W. Bradley  
Frank S. Brannen  
I. C. Brooks, Jr.  
Reid L. Brown  
James Y. Bryson  
Arch H. Bullard  
E. F. Buchner, Jr.  
W. R. Buttram  
W. R. Buttram, Jr.  
John R. Cain  
James L. Caldwell  
Earl R. Campbell  
Maurice A. Canon  
E. E. Carrier  
John P. Carter  
Douglas  
Chamberlain  
Cleo Chastain  
O. H. Clements  
George E. Cox  
John M. Crowell  
Tolbert C. Crowell  
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Cooper H. McCall  
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Preston C. McDow  
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Chas. J. Ray  
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W. D. L. Record  
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Herman Renner  
A. D. Roberts  
Gilbert M. Roberts  
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Robert C. Robertson  
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Philip C. Sottong  
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D. B. Karr  
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Joe B. Killebrew  
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John E. Kimball, Jr.  
Warren H. Kinsey  
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Gene H. Kistler  
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Rudolph M. Landis  
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Hiram A. Laws, Jr.  
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Philip H. Livingston  
H. D. Long  
Ira M. Long  
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Thomas S. Long  
Robt. E. Mabe  
Hugh B. Magill, Jr.  
T. J. Manson  
S. J. Marchbanks  
Fred E. Marsh  
M. A. Meacham  
William MacGuire  
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Cooper H. McCall  
David McCallie  
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W. D. Poston  
Glenn T. Scott  
David E. Stewart  
John Thornton, Jr.  
J. K. Welch, Jr.  
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John E. Neumann  
W. R. Peebles  
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*Centerville*  
Parker D. Elrod  
(Mbr. Davidson Co.)  
Ogle Jones  
(Mbr. Davidson Co.)  
Ewing McPherson  
(Mbr. Davidson Co.)

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*Erin*  
O. H. Atkins  
(Mbr. Montgomery Co.)  
O. S. Tuton  
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**HUMPHREYS COUNTY**  
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(Mbr. Hamblen Co.)

*Jefferson City*  
T. A. Caldwell  
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Sam C. Fain  
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Frank Milligan  
(Mbr. Hamblen Co.)  
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*Strawberry Plains*  
Robert Creech  
(Mbr. Knox Co.)  
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— In Service

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F. Dale Allen  
(Mbr. Hamblen Co.)  
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**JOHNSON COUNTY**  
*Mountain City*  
Paul J. Bundy  
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Malcolm Cobb  
R. H. Duncan  
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A. D. Simmons  
*Fountain City*  
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Wade H. Boswell  
H. O. Bourkard  
M. C. Bowman  
Jacob I. Bradsher  
Robert Brashers  
Robert Brimi  
Clayton M. Brodine  
Fred F. Brown, Jr.  
Horace E. Brown  
James A. Burdette  
Chas I. Butler  
\*Richard Butler  
John Burkhardt  
J. Ed Campbell  
P. H. Cardwell  
C. S. Carlson  
L. G. Caylor  
Jack Chesney  
L. Warren Chesney  
H. S. Christian  
H. E. Christenberry  
H. E. Christenberry, Jr.  
K. W. Christenberry  
W. F. Christenberry  
C. L. Chumley  
William E. Clark  
Edward S. Clayton  
H. G. Coker  
Margherita C. Cook  
Sam Cooper  
William R. Cross  
Miles S. Crowder  
J. P. Cullum  
H. K. Cunningham  
C. Harwell Dabbs  
John Daugherty  
Daniel Davis  
Martin Davis  
Oliver DeLozier  
R. V. DePue  
R. V. DePue, Jr.  
W. A. DeSautelle  
W. T. DeSautelle  
A. W. Diddle  
Sheldon Domm  
W. T. Dorsey  
R. N. Duffy, Jr.  
Chas. R. Earnest, Jr.  
J. Gilbert Eblen  
E. M. Edington  
Edward W. Ellis  
J. B. Ely  
W. H. Enneis  
W. B. Farris  
Frank Faulkner  
Mark P. Fecher  
George H. Finer  
G. Wm. Gallivan  
Joseph I. Garcia  
George I. Gee, Jr.  
C. F. George  
(Mbr. Hamblen Co.)

Garrison Geller  
Vivian Gibbs  
W. D. Gibson  
Edgar L. Grubb  
Glenn Grubb  
John H. Hall  
J. R. Hamilton  
B. I. Harrison  
James P. Harmon  
Eugene Haun  
Louis A. Hann  
J. T. J. Hayes, Jr.  
M. L. Hefley  
N. A. Henderson  
George G. Henson  
Howard K. Hicks  
James H. Hickman  
Robert E. Higgins  
Hubert C. Hill  
Jesse C. Hill  
John R. Hill  
Oliver W. Hill, Jr.  
Victor Hill  
R. L. Hobart, Jr.  
David F. Hoey  
Leon C. Hoskins  
George Turner  
Howard, Jr.  
Moses Howard  
Fred E. Hufstедler  
Perry Huggin  
E. C. Idol  
Geo. Inge  
C. E. Irwin  
W. J. Irwin  
A. L. Jenkins  
Fred Jenkins  
Harry H. Jenkins  
William S. Jones  
Margaret Joyce  
H. M. Kelso  
John O. Kennedy  
John F. Kesterson  
Victor H. Klein, Jr.  
Lamar Knight  
A. Hobart Lancaster  
Robert F. Lash  
F. K. Lawson  
Robert P. Layman  
Robert S. Leach  
Walter J. Lee, Jr.  
Rene Ledbetter  
John H. Leshler  
Forest S. LeTellier  
Felix Line  
Mary Lee Line  
Thomas B. Lomasney  
Geo. S. Maltan  
Margaret Maynard  
Bruce M. McCampbell  
Roy McCrary  
A. R. McCullough  
M. D. McCullough  
Roy L. McDonald  
R. L. McReynolds  
Alfred F. Miller  
Edwin E. Miller  
Foy B. Mitchell  
John F. Mohr  
Arthur Moler  
Ralph H. Monger  
J. L. Montgomery  
John D. Moore  
Owen D. Moore  
Joel C. Morris  
J. F. Morrow  
Harry R. Morse  
William S. Muse  
J. B. Naive  
William A. Nelson  
H. L. Neuenchwander  
Robert Newman  
Eugene P. Nicely  
Hazel Nichols  
Ralph Nichols  
G. T. Novegier  
Elvin B. Novon  
Kenneth A. O'Connor  
Harry K. Ogden  
Homer Ogle  
B. M. Overholt  
Nicholas Pappas  
Robert F. Patterson, Jr.  
E. H. Payne  
E. Converse Peirce  
Herschel Penn  
Jarrell Penn  
H. Dewey Peters  
B. F. Peterson  
Cecil E. Pitard  
S. Joe Platt  
Herbert L. Pope

W. W. Potter  
William F. Powell  
Bruce Powers  
Wilson Powers  
H. Hammond  
*Pride*  
James C. Prose  
J. B. Purkall, Jr.  
John A. Range  
Joe L. Raulston  
W. Gilmer Reed  
Wm. H. Reeder  
Paul D. Richards  
N. G. Riggins  
Frank Rogers  
Wm. K. Rogers  
Kenneth Rule  
Richard C. Sexton  
J. H. Saffold  
Wm. A. Shelton  
Alex B. Shipley  
Elton E. Shouse, Jr.  
Kenneth Shoemaker  
F. Chas. Siennkecht  
Frank J. Slemmons  
Chas. C. Smeltzer  
Joe T. Smith  
Vernon I. Smith  
W. E. Smith  
John R. Smoot  
James L. Southworth  
J. M. Stockman  
J. Hooper Stiles  
Thos. Stevens  
Wm. K. Swann, Jr.  
R. G. Tappan  
J. L. Taupe  
George W. Tharp  
D. R. Thomas  
Philip Thomas  
Wm. M. Tipton  
Lucian Trent  
Geo. M. Trotter  
M. Frank Turney  
C. L. Walton  
R. G. Waterhouse  
David H. Waterman  
Alvin J. Weber, Jr.  
Roy A. Wedekind, Jr.  
Fred West  
Roger E. White  
W. L. Whitehurst  
Richter H. Wiggall  
G. A. Williamson, Jr.  
Leon J. Willien  
J. D. Winbrenner  
R. B. Wood  
Vincent T. Young  
Eugene G. Zachary  
Charles R. Zirkle  
George Zirkle

*Mascot*  
Joseph K. Seale, Jr.  
*Powell Station*  
L. F. Cruise

**LAKE COUNTY**

*Ridgely*  
W. B. Acree  
J. T. Jabbour  
*Tiptonville*  
J. R. Holefield  
W. T. Kainey  
E. B. Smythe

**LAUDERDALE COUNTY**

*Halls*  
Jack T. Elmore  
(Mbr. Lauderdale Co.)  
J. G. Olds  
(Mbr. Dyer, Lake & Crockett)

*Ripley*  
W. E. David  
J. L. Dunavant  
Landrum S. Tucker  
Charles H. Webb  
Charles H. Webb  
Claud M. Williams

**LAWRENCE COUNTY**

*Lawrenceburg*  
V. H. Crowder  
W. O. Crowder  
J. W. Danley

Boyd P. Davidson  
Leo C. Harris, Sr.  
L. B. Molloy  
Carson F. Taylor  
*Loretto*  
V. L. Parrish

**LEWIS COUNTY**

*Hohenwald*  
William E. Boyce  
(Mbr. Maury Co.)

**LINCOLN COUNTY**

*Fayetteville*  
W. F. Boyce  
I. M. Donaldson  
Randolph A. Cate  
Helen G. Jones  
William D. Jones  
Ben H. Marshall  
R. E. McCown  
J. V. McRady  
T. A. Patrick, Jr.  
Norma Walker

**LOUDON COUNTY**

*Lenoir City*  
Harold D. Freedman  
(Mbr. Knox Co.)  
Hughes Johnson  
(Mbr. Knox Co.)  
J. A. Leeper  
(Mbr. Knox Co.)  
R. V. Taylor  
(Mbr. Knox Co.)  
*Loudon*  
Corrie Blair  
(Mbr. Knox Co.)  
Arthur P. Harrison  
(Mbr. Knox Co.)  
Samuel H. Harrison  
W. B. Harrison  
(Mbr. Knox Co.)  
Wm. T. McPeake  
(Mbr. Knox Co.)  
J. R. Watkins  
(Mbr. Knox Co.)

**MACON COUNTY**  
*Lafayette*  
C. C. Chitwood, Jr.  
R. D. Foster  
E. M. Froedige  
John R. Smith

**MADISON COUNTY**

*Bemis*  
J. A. Langdon  
Kelly Smythe  
Allan N. Williams, Jr.

**Jackson**

J. G. Anderson  
Thomas K. Ballard  
G. H. Berryhill  
Wm. H. Brooks  
Swan Burrus  
Swan Burrus, Jr.  
Hughes Chandler  
Tate B. Collins

Stanley E. Crawford  
Wm. G. Crook  
G. B. Dodson  
J. E. Douglass  
Roy A. Douglass, Jr.  
E. W. Edwards  
Willford Eppes  
Fred M. Friedman  
W. T. Fitts  
Oliver Graves  
W. W. Harrison  
Geo. Harvey, Jr.  
Henry H. Herron  
S. M. Herron  
G. B. Hubbard  
Leland M. Johnston  
Chester K. Jones  
G. Frank Jones  
Harold T. McIver  
Frank A. Moore  
H. N. Moore  
Lamb B. Myhr  
R. M. Neudecker  
John B. Nuckolls  
I. C. Pearce  
J. E. Powers

John G. Riddler  
Norris Shelton  
Charles C. Stauffer  
J. R. Thompson, Jr.  
Barbara Truex  
S. Allen Truex  
William F. Wagner  
Charles F. Webb  
Charles H. Webb  
George B. Wyatt  
Paul E. Wylie

**MARION COUNTY**

*Jasper*  
J. G. McMillan  
(Mbr. Hamilton Co.)  
David H. Turner  
(Mbr. Hamilton Co.)

*South Pittsburg*  
J. B. Haxton  
(Mbr. Hamilton Co.)  
William Headrick, Jr.  
(Mbr. Hamilton Co.)  
Viston Taylor  
(Mbr. Hamilton Co.)

*Whitwell*  
Wm. G. Shull  
(Mbr. Hamilton Co.)

**MARSHALL COUNTY**

*Bellevue*  
H. A. Morgan, Jr.  
(Mbr. Bedford Co.)

*Lewisburg*  
Kenneth Brown  
(Mbr. Bedford Co.)  
J. T. Gordon  
(Mbr. Bedford Co.)  
J. C. Leonard  
(Mbr. Maury Co.)  
T. F. Morgan  
(Mbr. Bedford Co.)  
Kenneth J. Phelps  
(Mbr. Bedford Co.)  
J. W. Rutledge  
(Mbr. Maury Co.)  
Jack S. Springer  
(Mbr. Giles Co.)

**MAURY COUNTY**

*Columbia*  
D. B. Andrews  
Wendell C. Bennett  
Mildred Casey  
William N. Cook  
Edward Ewton  
Wm. G. Fuqua  
C. C. Gardner, Jr.  
Daniel Gray, Jr.  
Harry C. Helm  
Robin Lyles  
Clay R. Miller  
James B. Miller  
Clarence S. Morrow  
(Mbr. Smith Co.)  
Edwin K. Provost  
Warren Rucker  
Leon S. Ward  
J. W. Wilkes, Jr.  
Cordell H. Williams  
Eleanor Williamson  
Watt Yeiser  
Thomas K. Young, Jr.

*Mt. Pleasant*  
G. C. English  
J. H. Jones  
C. D. Walton

**McMINN COUNTY**

*Athens*  
W. R. Arrants  
Charles T. Carroll  
L. D. Curtner  
R. W. Epperson  
C. O. Foree  
Wm. Edwin Foree  
Mihor Jones  
J. A. Powell, Jr.  
Edward B. Rank  
Helen M. Richards  
L. H. Shields  
*Etowah*  
S. Boyd McClary, Jr.  
Dan B. Powell  
John C. Sharp  
Oscar L. Simpson  
H. P. Whittle

- MCAIRY COUNTY**  
*Selmer*  
T. N. Humphrey  
W. A. Phillips  
Montie E. Smith, Jr.
- MONROE COUNTY**  
*Madisonville*  
Holden W. Hooper  
R. C. Kimbrough  
I. Houston Lowry  
Horace M. McGuire
- Sweetwater*  
J. H. Barnes  
W. J. Cameron  
D. F. Heuer, Jr.  
T. A. Lowry  
J. E. Young
- MONTGOMERY COUNTY**  
*Clarksville*  
Edward R. Atkinson  
Carlos B. Brewer  
E. P. Cutler  
Sam M. Doane, Jr.  
V. H. Griffin  
B. T. Iglehart  
J. H. Ledbetter, Jr.  
William G. Lyle  
Jack Ross  
Bryce F. Runyon  
A. F. Russell  
M. L. Shelby  
Robt. H. Tosh  
Charles A. Trahern  
Paul E. Wilson  
R. M. Workman
- MOORE COUNTY**  
*Lynchburg*  
F. Harlan Booher  
(Mbr. Lincoln Co.)
- MORGAN COUNTY**  
*Oakdale*  
J. H. Carr  
(Mbr. Roane Co.)
- Warburg*  
Curtis McCannnon  
(Mbr. Roane Co.)
- OBION COUNTY**  
*Kenton*  
Alden H. Gray  
(Mbr. Consolidated Cos.)
- Obion*  
Leon I. Runyon
- Troy*  
Chesley H. Hill
- Union City*  
J. Kelly Avery  
M. A. Blanton, Jr.  
Stevens Byars  
H. W. Calhoun  
Wm. N. Carpenter  
Robt. M. Darnall  
B. O. Garner  
R. L. Gilliam, II  
E. P. Kingsbury, Jr.  
R. G. Latimer, Jr.  
James W. Polk  
Malcolm T. Tipton
- OVERTON COUNTY**  
*Livingston*  
H. B. Nevans  
Denton Norris  
A. B. Qualls  
Donald M. Qualls  
F. L. Sidwell
- PERRY COUNTY**  
*Linden*  
B. I. Holladay  
(Mbr. Consolidated Cos.)  
Gordon H. Turner, Jr.  
(Mbr. Consolidated Cos.)  
\*In Service
- PICKETT COUNTY**  
*Byrdstown*  
Malcolm E. Clark  
(Mbr. Overton Co.)
- POLK COUNTY**  
*Benton*  
John H. Lillard  
(Mbr. McMinn Co.)
- Copperhill*  
W. Y. Gilliam  
(Mbr. Hamilton Co.)  
H. H. Hyatt  
(Mbr. Hamilton Co.)  
J. T. Layne  
(Mbr. Hamilton Co.)
- Ducktown*  
A. J. Guinn  
(Mbr. Hamilton Co.)  
C. Windom Kinsey  
(Mbr. Hamilton Co.)
- PUTNAM COUNTY**  
*Algood*  
J. T. Moore  
J. T. Moore, Jr.
- Cookeville*  
Jack L. Clark  
J. T. Deberry  
Lex Dyer  
Kenneth L. Haile  
Wm. A. Hensley, Jr.  
W. A. Howard  
Jere W. Lowe  
William Mattson  
R. H. Millis  
Thurman Shipley  
Wm. S. Taylor  
J. Fred Terry
- Granville*  
L. M. Freeman
- Monterey*  
C. A. Collins  
T. M. Crain
- RHEA COUNTY**  
*Dayton*  
Albert C. Broyles  
(Mbr. Hamilton Co.)  
J. J. Rogers  
(Mbr. Hamilton Co.)  
W. A. Thomison  
(Mbr. Hamilton Co.)
- Spring City*  
Mae E. Porter  
(Mbr. Hamilton Co.)
- ROANE COUNTY**  
*Harriman*  
Thomas L. Bowman  
Fred J. Hooper  
H. Stratton Jones  
L. A. Killeffer  
John R. Sisk
- Kingston*  
Carl Henry  
Chas. W. Moore  
field  
Nat Sugarman
- Oak Ridge*  
(See Anderson Co.)  
Gould A. Andrews  
Lawrence Ball  
Robt. P. Ball  
R. R. Bigelow  
Marshall Bruer  
Betty Cooper  
Martin Costello  
John P. Crews  
Dexter Davis  
John DePersio  
Robt. E. DePersio  
J. L. Diamond  
Harry Dickson  
P. M. Dings  
T. Guy Fortney  
\*William P. Hardy  
J. M. Hays  
William Holden  
R. A. Johnson  
Harvey Keese, Jr.  
Ralph M. Kniselev
- Janey Koll*  
Thomas A. Lincoln  
Lynn F. Lockett  
Joseph S. Lyon  
Paul R. Marsh  
L. C. May  
George Murray  
Dana Nance  
Etna Little Palmer  
Lewis I. Preston  
William Pugh  
Charles J. Ragan  
Hyman Rossman  
Henry B. Ruley  
Paul E. Spray  
Charles R. Sullivan  
Daniel M. Thomas  
Arthur Upton  
Marwood E. Wegner  
Curtis G. Wherry
- Oliver Springs*  
S. J. Van Hook  
Fred O. Stone  
(Mbr. Anderson-Campbell Co.)
- Rockwood*  
Robert S. Hicks  
R. F. Regester  
Geo. Shacklett  
G. E. Wilson
- ROBERTSON COUNTY**  
*Cedar Hill*  
R. H. Elder
- Springfield*  
W. B. Dye  
John S. Freeman  
J. S. Hawkins  
J. M. Jackson  
A. R. Kempf  
C. M. Looney  
W. P. Stone  
J. E. Wilkison
- RUTHERFORD COUNTY**  
*Murfreesboro*  
Carl E. Adams  
W. Stanley Barham  
Joseph O. Berkley  
J. B. Black  
J. T. Boykin  
John E. Carlton  
John F. Cason  
B. S. Davison  
S. C. Garrison, Jr.  
Gilbert Gordon  
Sam H. Hay  
R. D. Hollowell  
A. J. Jamison  
J. K. Kaufman  
Lois M. Kennedy  
Alexander M. McLarty  
M. B. Murfree, Jr.  
Eugene P. Odom  
Charles K. Rath  
B. W. Rawlins  
J. A. Scott  
Wm. W. Shacklett  
James W. Tenpenav  
Sam L. Wiles
- Smyrna*  
George Goodall  
James Lee Moore
- SCOTT COUNTY**  
*Norma*  
D. T. Chambers
- Oneida*  
W. S. Cooper  
M. F. Frazier  
H. M. Leeds  
M. E. Thompson  
Milford Thompson
- SEQUATCHIE COUNTY**  
*Dunlap*  
C. Clifford Ludington, Jr.  
(Mbr. Hamilton Co.)
- SEVIER COUNTY**  
*Gatlinburg*  
Ralph H. Shilling  
Bruce H. Sisler
- Sevierville*  
Troy J. Beeler
- R. A. Broady  
R. A. McCall  
Edward C. Perkins  
Robert F. Thomas  
J. R. VanArsdale  
C. P. Wilson  
O. H. Yarberry  
O. H. Yarberry, Jr.
- SHELBY COUNTY**  
*Collierville*  
L. P. Pearce  
R. F. Kelsey
- Cordova*  
C. A. Chaffee
- Forest Hill*  
J. E. Clark
- Germantown*  
John T. Carter, Jr.
- Memphis*  
Robert F. Ackerman  
John Q. Adams  
L. H. Adams  
W. M. Adams  
Justin H. Adler  
James E. Alexander  
Chester G. Allen  
I. Pearson Allen  
Frank S. Allen  
F. H. Alley  
Jacob Alperin  
Sam P. Anderson, Jr.  
S. B. Anderson  
William F. Andrews  
D. H. Anthony  
\*Robert A. Anthony  
Blake Arnoult  
J. M. Aste  
H. E. Atherton  
Edgar L. Austin  
W. W. Aycock  
J. C. Ayres, Jr.  
C. O. Bailey  
John W. Baird  
J. Earl Baker  
Malcolm E. Baker  
George F. Bale  
A. L. Ball  
Aden W. Barlow  
James R. Barr  
G. H. Bassett  
Paul Batson, Jr.  
Arthur L. Bellott, Jr.  
Charles A. Bender  
Hal F. Bennett  
B. F. Benton  
J. M. Bethea  
Ralph C. Bethea  
James D. Biles, Jr.  
W. T. Black, Jr.  
Sam Blackwell  
Basil A. Bland, Jr.  
Breen Bland  
C. D. Blassingame  
Phil Blecker  
Robert F. Bonner  
Howard A. Boone  
James L. Booth  
C. Whitman Borg  
R. L. Bourland  
R. L. Bowlin  
Earl P. Bowerman  
H. B. Boyd  
Winston Braun  
R. R. Braund  
James T. Bridges  
Carey Bringle  
Lewis P. Britt, Jr.  
D. A. Broady  
Joseph H. Brock  
J. M. Brockman  
J. H. Brockstein  
Maury Bronstein  
Harry G. Bryan  
Malvern T. Bryan  
Samuel Bryan  
K. M. Buck  
J. A. Buchignani  
W. D. Burkhalter  
Geo. H. Burkle, Jr.  
Orin D. Butterick, Jr.  
R. A. Calandrucio  
M. K. Callison  
E. Guy Campbell  
Ernest A. Canada  
Dominic J. Cara, Jr.  
B. W. Cannon  
Robert S. Caradine, Jr.  
D. M. Carr
- David S. Carroll  
Dan Carruthers, Jr.  
Harvey W. Carter  
L. L. Carter  
Sam C. Carter  
A. J. Cates  
A. H. Chamberlain, Jr.  
J. M. Chambers, Jr.  
W. C. Chaney  
R. E. Ching  
Joseph M. Chisholm  
Charles L. Clarke  
James A. Clark, Jr.  
E. W. Cocke, Jr.  
\*Lawrence L. Cohen  
M. D. Cohen  
Max H. Cohen  
W. C. Colbert  
F. H. Cole  
Catherine E. Coleman  
B. C. Collins  
James H. Collins  
Frank H. Collins  
E. D. Connell  
John P. Conway  
George A. Coors  
Giles A. Coors  
Arthur A. Cox  
Erwin M. Cox  
John E. Cox  
E. A. Crawford  
Lloyd V. Crawford  
P. T. Crawford  
A. H. Crenshaw  
J. A. Crisler, Jr.  
G. W. Crosswell  
Alvin J. Cummins  
Orin L. Davidson  
J. M. Davis  
R. A. Davison  
Charles J. Deere  
V. J. Demarco  
W. E. Denman  
McCarthy DeMeere  
Richard DeSaussure  
Alice R. Deutsch  
L. W. Diggs  
W. T. Dinsmore  
John B. Dorian, Jr.  
J. M. Dorris  
Thomas G. Dorrity  
Chas. V. Dowling  
Horton DuBard  
W. D. Dunavant  
I. G. Duncan  
Elmer S. Eddins  
E. N. Epstein  
Cyrus C. Erickson  
James N. Etteldorf  
C. Barton Etter  
J. D. Evans  
M. L. Evans  
H. B. Everett  
B. E. Everett, Jr.  
Harold G. Farley  
Turley Farrar  
Harold Feinstein  
Burt Friedman  
Daniel F. Fisher  
\*J. C. Flaniken  
R. B. Flaniken  
J. H. Francis  
W. Edward French  
Eugene W. Gadberry  
J. A. Gardner, Jr.  
Onyx P. Garner  
Dan C. Gary  
Elsbeth Gehorsam  
W. S. Gilmer, Jr.  
C. E. Gilliespie  
George E. Gish  
C. H. Glover  
Fred A. Goldberg  
Ralph Goldman  
Lester I. Goldsmith  
D. W. Goltman  
J. S. Goltman  
J. O. Gordon  
H. B. Gotten  
Nicholas Gotten  
Robert D. Gourley  
W. H. Gragg  
W. H. Gragg, Jr.  
H. D. Gray  
Arthur W. Green  
C. R. Green  
Jack Greenfield  
A. J. Grobmyer, Jr.  
N. W. Guthrie  
Lillian Hadsell  
E. R. Hall  
V. A. Hall  
Margaret A. Halle  
J. F. Hamilton
- Howard B. Hasen  
B. F. Hardin  
James D. Hardy  
J. H. Harris  
Mallory Harwell  
A. Kenneth Hawkes  
C. D. Hawkes  
Jean M. Hawkes  
C. I. Hay  
James E. Hayes  
L. K. Haynes  
C. H. Heacock  
J. P. Henry  
A. L. Herring  
George B. Higley  
\*Fontaine S. Hill  
James M. Hill  
J. J. Hobson  
\*C. F. Hoffman  
W. K. Hoffman, Jr.  
M. W. Hohlen  
J. E. Holmes  
Hubert L. Hotchkiss  
C. H. Householder  
John L. Houston  
Lewis T. Howard  
William T. Howard  
A. C. Hudson  
Joe Hufstetler  
James G. Hughes  
John D. Hughes  
Max O. Hughes  
John V. Hummell  
W. E. Hurt  
William W. Hunteau  
J. H. Hiams  
C. W. Ingle  
A. J. Ingram  
Thos. M. Jackson  
\*F. M. Jacobs  
H. J. Jacobson  
C. E. James  
D. H. James  
Hal P. James  
J. A. James  
Oliver C. Jeffers  
W. D. Jensen  
Donald A. Johnson  
J. Dan Johnson  
A. M. Jones  
George P. Jones, Jr.  
Harry Johnson  
Robert G. Jordan  
A. Wilson Julich  
L. A. Kasselberg  
Marvin M. Keirns  
Ernest C. Kelly  
Henry G. Kessler  
Billy W. King  
Charles M. King  
J. C. King  
T. A. Kirkland  
W. F. Klotz  
R. A. Knight  
Sheldon B. Korones  
Bernard M. Kraus  
Melvin M. Kraus  
Cary M. Kuykendall  
N. W. Kuykendall, Jr.  
J. Warren Kyle  
H. Z. Landis  
C. G. Landsee  
H. G. Lanford  
Gene M. Lasater  
O. M. Laten  
Frank A. Latham  
M. W. Lathram  
E. A. Laughlin  
H. G. LaVelle, Jr.  
Robert E. Lawson  
Gilbert J. Levy  
L. C. Lewis  
P. M. Lewis  
Alys H. Lipscomb  
Geo. R. Livermore, Jr.  
D. G. Lockwood  
Charles E. Long  
J. H. Lotz  
Carruthers Love  
Martha A. Loving  
George S. Lovejoy  
William Lovejoy  
Edward H. Mabry  
W. F. Mackey  
Holt B. Maddox  
\*Chas. K. Mahaffey  
Battle Malone II  
T. P. Manigan  
Philip M. Markle  
N. M. Marolla  
\*Carl D. Marsh  
C. H. Marshall  
Tinnin Martin, Jr.  
A. D. Mason, Jr.  
Wm. Watson Mason



Charles R. Mason  
J. W. Mason  
Robin F. Mason  
Wm. W. Alason  
Gordon I. Mathes  
O. S. Matthews  
William P. Maury  
R. F. Mayer  
L. H. Mayfield  
J. E. Meadows  
A. H. Meyer  
A. H. Meyer, Jr.  
Robert M. Miles  
Lee W. Milford,  
Jr.  
C. W. Miller, Jr.  
Fox Miller  
Harold R. Miller  
Richard A. Miller  
Richard Braun  
Miller  
Richard W. Miller  
Dan C. Mills  
George L. Mills  
J. Purvis Minot  
W. D. Mims  
L. C. Minkin  
B. G. Mitchell  
E. D. Mitchell, Jr.  
P. T. Mitchell  
F. C. Mobely  
J. C. Mobely, Jr.  
Benjamin A. Moell  
Wm. L. Mollatt  
E. M. Molinski  
David F. Moore  
Fontaine B. Moore,  
Jr.  
James A. Moore  
Marion R. Moore  
Moore Moore, Jr.  
O. F. Moore, Jr.  
(Mbr. Lauderdale  
Co.)  
Thomas D. Moore  
J. L. Morgan  
Henry Moskowitz  
J. P. Moss  
T. C. Moss  
R. Lyle Motley  
Francis Murphey  
W. J. Murrain, Jr.  
Roland H. Myers  
Robert P. Mc-  
Burney  
John W. McCall  
John G. McCarty  
J. J. McCaughan  
D. R. McClary  
D. C. McCool  
R. B. McCormick  
F. F. McDaniell, Jr.  
John L. McGee, Jr.  
J. Wesley McKimney  
B. E. McLarty  
Richard P. McNelis  
George McPherson  
Elise I. McQuiston  
J. A. McQuiston  
Robt. W. Neilson  
D. W. Oelker  
L. C. Ogle  
W. S. Ogle  
Charles B. Olim  
J. C. Orman  
Phil E. Orpet, Jr.  
Wm. J. Oswald  
Charles F. Pack, Jr.  
Alfred H. Page  
Joseph B. Parker,  
Jr.  
Samuel Pastel  
George J. Pastorius  
Russell H. Patterson  
Morris Pasternack  
Raphael N. Paul  
G. E. Paulius  
H. A. Pearce  
B. L. Pentecost  
Vanner M. Peston  
John D. Piggett  
W. H. Pistole  
Mary Frances Poe  
R. M. Pool  
A. R. Porter, Jr.  
C. H. Porter  
Stephen A. Pridden  
Helen Prieto  
H. W. Qualls  
J. W. Ragsdale  
H. R. Raines  
J. A. Raines  
S. L. Raines  
Robert Raskind  
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\*In Service

R. B. Ray  
John J. Redmon  
H. Eugene Reese  
J. R. Reinberger  
Walter M. Rentrop  
Hal S. Rhea  
Chas. R. Riggs  
W. W. Riggs  
J. I. Rittelmeyer,  
Jr.  
M. J. Roach, Jr.  
H. J. Roberts  
S. Gwin Robbins  
C. G. Robinson  
James A. Robinson  
W. W. Robinson  
W. P. Rochelle  
Gordon K. Rogers  
Nathaniel F. Rossett  
Joseph A. Rothschild  
Robert M. Ruch  
W. A. Ruch  
W. L. Rucks  
H. G. Rudner  
Henry G. Rudner,  
Jr.  
W. A. Runkle  
P. B. Russell, Jr.  
R. O. Rychener  
L. C. Sanders  
R. L. Sanders  
S. H. Sanders  
W. T. Satterfield  
S. J. Schaffer, Jr.  
Paul Schaff  
David E. Scheinberg  
Glen P. Schoettle  
Jerome Schreff  
P. G. Schreier  
Elmer C. Schultz  
Joseph L. Scianni  
C. B. Scott  
James L. Seale  
Jack Segal  
L. L. Sebulsky  
M. P. Segal  
E. C. Segerson  
M. B. Seligstein  
R. E. Semmes  
John L. Shaw  
J. J. Shea, Jr.  
James R. Shelton  
Saul Siegel  
W. L. Simpson  
Paul R. Sissman  
Edward F. Skinner  
Alvin E. Smith  
Hugh Smith  
O. E. Smith  
F. Ward Smythe  
Frank W. Smythe,  
Jr.  
John J. Sohm  
H. A. Sparr  
J. S. Speed  
Eugene J. Spiotta  
Douglass H. Sprunt  
Joseph Stabnick  
C. Cooper Stanford  
J. B. Stanford  
Ray G. Stark  
O. B. Stegall  
William P. Stepp  
Newton S. Stern  
Thomas N. Stern  
E. M. Stevenson  
F. N. Stevenson  
M. J. Stewart  
S. Fred Strain  
A. N. Streeter  
Robt. J. Stubble-  
field  
Hall S. Tacket  
B. S. Talley  
Finis A. Taylor  
James A. Taylor  
Robert C. Taylor  
W. W. Taylor  
James R. Teabrant,  
Jr.  
Morton I. Tendler  
William W. Tribby  
A. B. Tripp  
Medlin L. Trumbull  
J. M. Tuholski  
I. Frank Tullis, Jr.  
H. K. Tuley, Jr.  
John C. Turley  
P. A. Turman  
R. B. Turnbull  
C. C. Turner  
Henry B. Turner  
Arless H. Tuttle  
Austin R. Tyner, Jr.  
Wm. J. Tyson, Jr.  
Edmund Utkov  
F. A. Vaccaro

C. F. Varner  
Leonard J. Vernon  
Paul C. Vesovo, Jr.  
Sidney D. Vick  
John Vincent  
Richard P. Walker  
W. Hamilton Walker  
W. W. Walker  
Fred C. Wallace  
James A. Wallace  
Bruce A. Wallace  
Cecil E. Warde  
Thomas L. Waring  
O. S. Warr, Jr.  
W. W. Watkins  
J. J. Weems  
I. D. Weiner  
Alva B. Wein, Jr.  
S. I. Wener  
I. D. West  
T. H. West  
William G. White  
J. E. Whiteleather  
W. L. Whittemore  
Walter L. Wilhelm  
H. G. Williams  
S. B. Williamson  
Harwell Wilson  
James E. Wilson  
John M. Wilson  
J. B. Witherington  
Marvin L. Wolff  
C. H. Workman, Jr.  
Richard I. Wooten  
C. W. Woolley  
Howell D. Woodson  
C. F. Yates  
Jack G. Young  
John D. Young, Jr.  
Bernard Zussman  
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\*In Service

Seymour Pelzer  
I. E. Phillips  
Philip D. Stout  
F. W. Sutterlin  
Frederick Thackston  
D. D. Vance  
Frederick Vance, Jr.  
Wm. K. Vance  
---  
\*In Service

Westmoreland  
Kermit Jones  
---  
\*In Service

Charles K. Slade  
Mel D. Smith  
Hugh F. Swingle, Jr.  
T. S. Wedde  
Charles P. Wofford  
John M. Wilson  
---  
\*In Service



## MEMBERS RESIDING OUTSIDE OF TENNESSEE

|  |                      |                         |
|--|----------------------|-------------------------|
| Thomas E. Adkins, 806 Adonis Road                                    | Rossville, Ga.       | Davidson                |
| L. L. Alexander, Stansbury Bldg.                                     | Rossville, Ga.       | Dickson                 |
| T. R. Banks, 203 1/2 Chickamauga Ave.                                | Rossville, Ga.       | Dyer, Lake and Crockett |
| Thos. M. Blake, University Hospital                                  | Jackson, Miss.       | Dyer, Lake and Crockett |
| Richard K. Cole  | Newton Square, Pa.   | Dyer, Lake and Crockett |
| H. W. Crouch, 905 North Grand Blvd.                                  | St. Louis 6, Mo.     | Fayette                 |
| Jock L. Graeme, 556 Morris Ave.                                      | Summit, N. J.        | Franklin                |
| James L. Hamilton, District No. 4, Tuberculosis Hospital, RFD No. 7  | Gadsden, Ala.        | Franklin                |
| Ross H. Hamilton   | Gate City, Va.       | Gibson                  |
| Lewis B. Hardison, Box 72  | Hamlet, N. C.        | Giles                   |
| Frank Robt. Holter, c/o General Delivery                             | Westchester, Pa.     | Giles                   |
| R. C. Kimbrough, Jr., 3617 West 6th Street                           | Topock, Kansas       | Greene                  |
| Ambrose Langa, Capt., 04043292, 93rd Evacuation Hospital,            | Fort Polk, La.       | Greene                  |
| James Nesbitt, III, Memorial Hospital, 444 East 68th St.             | New York, N. Y.      | Hamblen                 |
| Leo C. Nickell, 1415 Fairview Avenue                                 | Orlando, Fla.        | Hamblen                 |
| A. C. Parker   | Clarksdale, Ark.     | Hamilton                |
| Ruth Harris Peet   | Flat Rock, Ala.      | Hamilton                |
| Daniel B. Powell, 1st Lt., M.C., USAR, 1612 Lucas, Artillery Village | Fort Sill, Okla.     | Hamilton                |
| Walter P. Quigley, 1729 North 83rd St.                               | Wauwatosa, Wisc.     | Hamilton                |
| Wayne Rogers, Beth Israel Hospital                                   | Boston, Mass.        | Hamilton                |
| John G. Samuels  | Hickman, Ky.         | Hamilton                |
| John M. Saunders, Federal Security Agency, Regional Office           | Washington 25, D. C. | Hamilton                |
| J. H. Solomon, 5908 Wilson Lane                                      | Bethesda, Md.        | Hamilton                |
| Hunter Steadman, 3508 St. John's Drive                               | Dallas 5, Texas      | Hamilton                |
| W. R. Sullivan, 2708 Parkway   | Rusk, Texas          | Hamilton                |
| Edward L. Farpley, 6706 Foothill Blvd.                               | Oakland 5, Calif.    | Hamilton                |
| Alfred M. Taylor, 3063 Ashwood St.                                   | Cleveland 20, Ohio   | Hamilton                |
| Bruce E. Walls, 501 So. Lucas  | Fort Bragg, N. C.    | Hamilton                |
| Starnes E. Walker, 303 East Armour                                   | Kansas City, Mo.     | Hamilton                |
| S. S. Whitaker, Memorial Hospital, Box 3189                          | Charleston, W. Va.   | Hamilton                |
| Joel J. White, Duval Medical Center, 2000 Jefferson Street           | Jacksonville, Fla.   | Hamilton                |
| Richard H. White   | Hickman, Ky.         | Haywood                 |
| W. J. B. Williams  | Cotton Plant, Ark.   | Henry                   |
| J. C. Woodall  | Trenton, Ky.         | Henry                   |
| Gilbert Young  | Bennettsville, S. C. | Henry                   |

## VETERAN MEMBERS

|  |                         |  |
|--|-------------------------|--|
| M. L. Connell, Wartrace  | Bedford                 |  |
| J. H. Dyer, Wartrace   | Bedford                 |  |
| B. L. Burdette, Shelbyville  | Bedford                 |  |
| T. R. Ray, Shelbyville   | Bedford                 |  |
| George W. Burchfield, Maryville  | Blount                  |  |
| J. S. Tipton, Friendsville   | Blount                  |  |
| G. D. Lequire, Maryville   | Blount                  |  |
| L. R. Lingenman, Maryville   | Blount                  |  |
| J. C. Anderson, Rockford   | Blount                  |  |
| J. M. Onslery, Rockford  | Blount                  |  |
| J. M. Waters, Walland  | Blount                  |  |
| W. B. Campbell, Cleveland  | Bradley                 |  |
| Benjamin F. Gates, Cleveland   | Bradley                 |  |
| L. C. Smith, Henderson   | Chester                 |  |
| J. E. Hampton, Newport   | Coke                    |  |
| E. L. Womack, Manchester   | Coffee                  |  |
| May C. Wharton, Pleasant Hill  | Cumberland              |  |
| W. B. Anderson, Doctors Bldg., Nashville   | Davidson                |  |
| A. C. Bailey, 1928 20th Avenue, South, Nashville                                   | Davidson                |  |
| R. A. Barr, Route No. 4, Gallatin  | Davidson                |  |
| R. W. Billington, RFD No. 2, Franklin  | Davidson                |  |
| C. E. Brush, 2320 West End Avenue, Nashville                                       | Davidson                |  |
| J. Leslie Bryan, 1812 Woodmont Boulevard, Nashville                                | Davidson                |  |
| O. N. Bryan, 2122 West End Avenue, Nashville                                       | Davidson                |  |
| I. E. Burch, 2112 West End Avenue, Nashville                                       | Davidson                |  |
| Lucien Caldwell, RFD No. 4, Holt Road, Nashville                                   | Davidson                |  |
| Will Camp, Rock Island   | Davidson                |  |
| Sam Cowan, Sr., 1915 Church Street, Nashville                                      | Davidson                |  |
| M. M. Cullom, Bennie-Dillon Building, Nashville                                    | Davidson                |  |
| R. A. Daniel, Sr., 100 Fairway Drive, Donelson                                     | Davidson                |  |
| W. C. Dixon, Doctors Building, Nashville   | Davidson                |  |
| Wm. Bate Dozier, 627 Forrester Avenue, Nashville                                   | Davidson                |  |
| Duncan Eve, 2001 Hayes Street, Nashville   | Davidson                |  |
| I. J. Frey, 3815 Baxter Avenue, Nashville  | Davidson                |  |
| F. W. Goodpasture, Armed Forces Institute, Walter Reed Hospital, Washington, D. C. | Davidson                |  |
| R. W. Grizzard, 1310 Church Street, Nashville                                      | Davidson                |  |
| Geo. H. Harding, Bennie-Dillon Building, Nashville                                 | Davidson                |  |
| Wm. Moore Hardy, Doctors Building, Nashville                                       | Davidson                |  |
| George A. Hatcher, College Grove   | Davidson                |  |
| O. S. Hank, Central State Hospital Nashville                                       | Davidson                |  |
| R. N. Herbert, 4124 Franklin Road, Nashville                                       | Davidson                |  |
| Wm. A. Iloran, 1104 Ordway Place, Nashville  | Davidson                |  |
| I. P. Keller, Doctors Building, Nashville  | Davidson                |  |
| Howard King, Doctors Building, Nashville   | Davidson                |  |
| R. K. Landis, 2608-B Nolensville Road, Nashville                                   | Davidson                |  |
| Norris Leonard, D.D.S., Bennie-Dillon Bldg., Nashville                             | Davidson                |  |
| J. O. Manier, 1715 Cedar Lane, Nashville   | Davidson                |  |
| W. D. Martin, Lebanon Road, Donelson   | Davidson                |  |
| P. G. Morrissey, Sr., Bennie-Dillon Bldg., Nashville                               | Davidson                |  |
| D. L. Mumpower, 414 Gallatin Road Nashville  | Davidson                |  |
| Harold E. Patsy, 4309 Estes Avenue, Nashville                                      | Davidson                |  |
| T. G. Pollard, Doctors Building, Nashville   | Davidson                |  |
| W. E. Reynolds, 30 Highland Drive, Clearwater Beach, Florida                       | Davidson                |  |
| H. P. Reiger, 1311 9th Avenue, North, Nashville                                    | Davidson                |  |
| L. L. Roberts, Bennie-Dillon Bldg., Nashville                                      | Davidson                |  |
| B. T. Bucks, Tulane Hotel, Nashville   | Davidson                |  |
| Wm. D. Snupper, Sr., 1909 Division Street, Nashville                               | Davidson                |  |
| S. R. Teachout, 2012 West End Avenue, Nashville                                    | Davidson                |  |
| Harold Trueberger, 820 Normal Circle, Memphis                                      | Davidson                |  |
| Ired L. Webb, 1903-21st Avenue, South, Nashville                                   | Davidson                |  |
| O. H. Wilson, 104 Clarendon Avenue, Nashville                                      | Davidson                |  |
| W. J. Sugg, Dickson  | Davidson                |  |
| W. B. Alexander, Ridgely   | Dyer, Lake and Crockett |  |
| J. B. Brewer, Dyersburg  | Dyer, Lake and Crockett |  |
| D. T. Holland, Newbern   | Dyer, Lake and Crockett |  |
| J. A. Ledbetter, Dyersburg   | Dyer, Lake and Crockett |  |
| P. C. Tipton, Dyersburg  | Dyer, Lake and Crockett |  |
| F. K. West, Rossville  | Fayette                 |  |
| R. M. Kirby-Smith, Sewance   | Franklin                |  |
| James P. Moon, Winchester  | Franklin                |  |
| O. N. Lorian, Sewance  | Franklin                |  |
| John Jackson, Dyer   | Gibson                  |  |
| F. B. Hulme, Pulaski   | Giles                   |  |
| Wm. A. Lewis, Pulaski  | Giles                   |  |
| C. Y. Bailey, Greeneville  | Greene                  |  |
| C. P. Fox, Jr., Greeneville  | Greene                  |  |
| W. T. Mathes, Greeneville  | Greene                  |  |
| I. F. Painter, Morristown  | Hamblen                 |  |
| W. F. Howell, Morristown   | Hamblen                 |  |
| Justin O. Adams 304 West 45th St., Chattanooga                                     | Hamilton                |  |
| W. E. Anderson, James Building, Chattanooga  | Hamilton                |  |
| J. H. Barnett, Box 22, Panama, Florida   | Hamilton                |  |
| O. L. Blackwell, 6578 East Brainerd Rd., Chattanooga                               | Hamilton                |  |
| R. M. Colmore, 1 Mable Street, Chattanooga   | Hamilton                |  |
| John L. Cooley, Tarpon Springs, Florida  | Hamilton                |  |
| S. A. Fowler, Wildwood Sanatorium, Wildwood, Georgia                               | Hamilton                |  |
| J. A. Gentry, Altura Drive, Signal Mountain, Chattanooga                           | Hamilton                |  |
| H. H. Hampton, Signal Mountain, Chattanooga  | Hamilton                |  |
| C. R. Henry, 1513 Carroll Lane, Chattanooga  | Hamilton                |  |
| W. J. Hillas, 1812 East Adams St., Tucson, Arizona                                 | Hamilton                |  |
| Max D. Lundsav, Spring City  | Hamilton                |  |
| W. R. Irish, 200 Marshall Road, North Chattanooga                                  | Hamilton                |  |
| J. McClure Richards, Red Bank, Chattanooga   | Hamilton                |  |
| R. E. Shelton, 3609 Twelfth Avenue, Chattanooga                                    | Hamilton                |  |
| Fred B. Stapp, 1615 Berkeley Circle, Chattanooga                                   | Hamilton                |  |
| John B. Steele, 106 Morningside Drive  | Hamilton                |  |
| G. Victor Williams, James Building, Chattanooga                                    | Hamilton                |  |
| Roy M. Lanier, Brownsville   | Haywood                 |  |
| C. L. McDaniel, Henry  | Henry                   |  |
| J. H. McSwain, Paris   | Henry                   |  |
| E. B. Paschall, Paris  | Henry                   |  |
| R. J. Perry, Springville, RFD  | Henry                   |  |
| Henriette Veltman, Paris   | Henry                   |  |
| L. R. Anderson, Gainesboro   | Jackson                 |  |
| C. E. Reeves, Gainesboro   | Jackson                 |  |
| Eben Alexander, Eastern State Hospital, Knoxville                                  | Knox                    |  |
| J. H. Gammon, 521 West Cumberland Avenue, Knoxville                                | Knox                    |  |
| A. R. Garrison, Beaver Ridge Road, Knoxville                                       | Knox                    |  |
| E. A. Gynes, 114 Hotel Avenue, Knoxville   | Knox                    |  |
| C. B. Jones, 631 Scenic Drive, Knoxville   | Knox                    |  |
| Walter Luttrell, Doctors Building, Knoxville                                       | Knox                    |  |
| Robert F. Patterson, Medical Art Bldg., Knoxville                                  | Knox                    |  |
| J. B. Parker, Inskip   | Knox                    |  |
| W. D. Richards, Hamilton Bank Bldg., Knoxville                                     | Knox                    |  |
| M. S. Roberts, Medical Arts Bldg., Knoxville                                       | Knox                    |  |
| George Wilhelm, Gardinburg   | Knox                    |  |
| W. S. Alexander, Ridgely   | Lake                    |  |
| J. R. Lewis, Ripley  | Lauderdale              |  |
| T. E. Miller, Ripley   | Lauderdale              |  |
| A. I. Griffith, Flora  | Lincoln                 |  |
| H. K. Alexander, Fayetteville  | Lincoln                 |  |
| T. F. Ashley, Fayetteville   | Lincoln                 |  |
| C. L. Goodrich, Fayetteville   | Lincoln                 |  |
| W. S. Joplin, Petersburg   | Lincoln                 |  |
| J. M. McWilliams, Fayetteville   | Lincoln                 |  |
| J. F. Sloan, Fayetteville  | Lincoln                 |  |
| R. S. Brown, Jackson   | Madison                 |  |
| George C. Williamson, Columbia   | Mauv                    |  |
| W. R. Webb, Hampshire  | Mauv                    |  |
| Claude Y. Clarke, Mt. Pleasant   | Mauv                    |  |
| B. H. Woodard, Spring Hill   | Mauv                    |  |
| W. W. Leonard, Tellico Plains  | Monroe                  |  |
| W. A. Rogers, Tellico Plains   | Monroe                  |  |
| John W. Ross, Sr., Clarksville   | Montgomery              |  |
| R. L. Norris, Palmvra  | Montgomery              |  |
| W. J. Abel, Decatur  | McMinn                  |  |
| E. G. Sanders, Stantonville  | McNairy                 |  |
| Wm. N. Brown, Livingston   | Overton                 |  |
| J. D. Capps, Livingston  | Overton                 |  |
| I. T. McDonald, Monroe   | Overton                 |  |
| F. M. Dings, Oak Ridge   | Roane                   |  |
| Hugh Ladd, Kingston  | Roane                   |  |
| George P. Zirkle, Kingston   | Roane                   |  |
| Jame P. Fly, Centerville   | Roane                   |  |
| H. E. Handley, White Plains, N. Y.   | Rutherford              |  |
| J. M. Shipp, Benton, Miss.   | Rutherford              |  |
| Shields Abernathy, 350 So. Highland, Memphis                                       | Shelby                  |  |
| W. G. Alford, 2212 Florida St., Memphis  | Shelby                  |  |
| G. E. Anderson, 1271 East Parkway, So. Memphis                                     | Shelby                  |  |
| J. L. Beauchamp, 1051 Madison Ave., Memphis  | Shelby                  |  |
| L. F. Boyd, 2067 Hallwood Drive, Memphis   | Shelby                  |  |
| W. F. Boyd, Cordova  | Shelby                  |  |
| Wm. Britt Burns, 4125 Monticello, Abilene, Texas                                   | Shelby                  |  |
| J. P. Carter, 649 White Station Road, Memphis                                      | Shelby                  |  |
| Casa Collier, 629 Rozelle, Memphis   | Shelby                  |  |
| T. N. Coppedge, 1807 Harbert, Memphis  | Shelby                  |  |
| R. R. Davenport, 1853 Snowden, Memphis   | Shelby                  |  |
| George Gartley, Florida Sanitarium, Orlando, Fla.                                  | Shelby                  |  |
| Wm. R. Graves, 505 South Highland, Memphis   | Shelby                  |  |
| E. C. Ham, 725 Jackson Ave., Memphis   | Shelby                  |  |
| H. B. Jacobson, 114 No. McLean Ave., Apt. 2, Memphis                               | Shelby                  |  |
| C. C. King, 1475 Linden, Memphis   | Shelby                  |  |
| N. E. Leake, Shelby County Hospital, Memphis                                       | Shelby                  |  |
| Geo. R. Livermore, Sr., Medical Arts Bldg., Memphis                                | Shelby                  |  |
| W. H. Lovejoy, 511 South Parkway, East, Memphis                                    | Shelby                  |  |

F. G. Meriwether, 3669 Northwood Drive  
 F. McCann, 3195 Spottswood, Memphis  
 J. A. McIntosh, Col. Mut. Tower, Memphis  
 L. B. McNulty, 217 Stonewall, Memphis  
 L. C. McVay, Marion, Arkansas  
 R. H. Miller, Parker Avenue, Nashville  
 Moore Moore, Sr., 1292 Union Ave., Memphis  
 Wallace Moore, 1161 Raynor, Memphis  
 G. W. Musgraves, Hickman Building, Memphis  
 Edwin M. Pette, 326 Vance, Memphis  
 Arthur G. Quinn, Hot Springs, Ark.  
 I. P. Peerce, Collierville  
 I. V. Schmittou, 1301 Central Blvd., Brownsville, Texas  
 Harry C. Schmeisser, 4225 Walnut Grove Rd., Memphis  
 Joseph H. Smith, Exchange Bldg., Memphis  
 W. L. Williamson, 188 So. Bellevue, Memphis  
 Percy H. Wood, Co. Mut. Tower Bldg., Memphis  
 Ed. D. Gross, Chestnut Mound  
 R. N. Buchanan, Sr., Hendersonville  
 L. B. Cunningham, Bristol  
 W. W. Rippy, Collinwood  
 R. W. Brandon, Sr., Martin  
 H. G. Edmondson, Martin

## DECEASED MEMBERS

Robert L. Dozier, Jr., Nashville  
 C. L. Hill, Nashville  
 J. J. Post, Nashville  
 F. A. Sutherland, Madison College

|          |  |                            |
|----------|--|----------------------------|
| Shelby   | I. L. Baker, Western State Hospital, Bolivar | Hardeman                   |
| Shelby   | Jerome Powers, Hohenwald                     | Lewis                      |
| Shelby   | J. C. Eldridge, Chattanooga                  | Hamilton                   |
| Shelby   | A. F. Goodloe, Chattanooga                   | Hamilton                   |
| Shelby   | John W. Hocker, Chattanooga                  | Hamilton                   |
| Shelby   | A. F. Brandon, Chattanooga                   | Hamilton                   |
| Shelby   | G. L. McDaniel, Henry                        | Henry                      |
| Shelby   | H. J. Bolin, Mascot                          | Knox                       |
| Shelby   | T. E. Fitzgerald, Knoxville                  | Knox                       |
| Shelby   | C. B. Jones, Knoxville                       | Knox                       |
| Shelby   | H. L. Kitts, Knoxville                       | Knox                       |
| Shelby   | Richard McIlwaine, Knoxville                 | Knox                       |
| Shelby   | W. P. Wood, Knoxville                        | Knox                       |
| Shelby   | I. A. Patrick, Fayetteville                  | Lincoln                    |
| Shelby   | J. M. Shelton, Kelso                         | Lincoln                    |
| Shelby   | R. S. Brown, Jackson                         | Lincoln                    |
| Shelby   | W. H. Kittrell, Mount Pleasant               | Maury                      |
| Smith    | R. S. Perry, Columbia RFD No. 7              | Maury                      |
| Simmer   | J. A. Haddin, Sweetwater                     | Monroe                     |
| Sullivan | H. H. Edmondson, Clarksville                 | Montgomery                 |
| Wayne    | O. A. Kirk, Linden                           | Perry                      |
| Weakley  | W. W. Hill, Harriman                         | Roane                      |
| Weakley  | I. G. Duncan, Memphis                        | Shelby                     |
|          | Sidney S. Evans, Memphis                     | Shelby                     |
|          | E. C. Mitchell, Memphis                      | Shelby                     |
|          | Thomas I. McNeer, Kingsport                  | Sullivan-Johnson           |
| Davidson | Virginia Shepherd Clinton, Bluff City        | Sullivan-Johnson           |
| Davidson | E. T. West, Johnson City                     | Washington, Carter, Unicoi |
| Davidson | Frank B. Dunklin, Lebanon                    | Wilson                     |
|          | D. P. Brundle, Englewood                     | McMinn                     |

## INDEX TO VOLUME 48

## INDEX OF AUTHORS

|                         |     |                         |     |                         |     |
|-------------------------|-----|-------------------------|-----|-------------------------|-----|
| Abrams, Hymans S.       | 452 | French, W. Edward       | 136 | Piston, Robert E.       | 257 |
| Anderson, H. R.         | 6   | Gilmer, W. S., Jr.      | 261 | Rath, Charles K.        | 85  |
| Arnold, I. L.           | 11  | Goodwin, Robert A., Jr. | 215 | Retterbush, William C.  | 407 |
| Avera, John W.          | 321 | Hand, Albert M.         | 372 | Riven, Samuel S.        | 243 |
| Babcock, Kenneth B.     | 203 | Harwell, Aubrey B.      | 322 | Robertson, Robert C.    | 53  |
| Boehm, Walter E.        | 357 | Henning, Harold B.      | 317 | Scott, H. William       | 435 |
| Boswell, Wade H.        | 253 | Horton, Bennett F.      | 367 | Sharp, W. K., Jr.       | 304 |
| Bowman, J. R.           | 257 | Hutcherson, W. Powell   | 219 | Smith, Daugh W.         | 325 |
| Brading, Edward T.      | 382 | Ivie, Joseph McK.       | 402 | Sproffkin, Bertram E.   | 328 |
| Bradsher, Jacob T., Jr. | 407 | Kirby-Smith, Henry T.   | 51  | Strickland, J. Ed., Jr. | 290 |
| Bray, Adolphus          | 130 | Knight, Vernon          | 367 | Swann, William K.       | 407 |
| Bullard, Arch H.        | 219 | Knox, F. H.             | 226 | Tacket, Hall S.         | 286 |
| Byrd, Benjamin F., Jr.  | 398 | Korones, Sheldon B.     | 372 | Taylor, A. M.           | 448 |
| Callander, R. J.        | 411 | Lambeth, Samuel S.      | 293 | Thompson, John R., Jr.  | 121 |
| Carlson, Robert I.      | 124 | Lomasney, Thomas L.     | 407 | Towery, Beverly         | 403 |
| Carpenter, George K.    | 41  | Lovejoy, George S.      | 261 | Trabue, Charles C.      | 117 |
| Chesney, Jack           | 77  | Mayer, Andrew           | 384 | Trumbull, M. L.         | 337 |
| Collins, Harold A.      | 435 | Miller, W. Rutledge     | 81  | Tullis, I. Frank        | 207 |
| Cosby, Lewis F., Jr.    | 257 | Moore, Moore, Jr.,      | 41  | Turney, M. Frank        | 44  |
| Daniel, Rollin A., Jr.  | 49  | McBurney, Robert P.     | 283 | Varnell, Gilbert A.     | 446 |
| Diggs, L. W.            | 1   | McSwain, Barton         | 397 | Waring, Thomas L.       | 52  |
| Ellis, Mackinnon        | 411 | Noel, Oscar F.          | 400 | Woodson, H. D.          | 337 |
| Foster, John H.         | 435 | Pallas, William C.      | 362 |                         |     |

## INDEX OF SUBJECTS

|   |  |  |  |
|---|--|--|--|
| Abbreviations: "ab" for abstract; "ed" for editorial; "pp" for president's page; "cc" for clinical staff conference; "cpc" for clinicopathologic conference; (*) for original articles. |  | BREAST: see Cancer                                       |  |
|   |  | tumors, management of (*)                                | 397  |
|   |  | BRONCHUS: see Cancer                                     |  |
|   |  | CANCER   |  |
| ABDOMEN, injuries, intra-abdominal (*)  |  | breast, clinical course of (*)                           | 398  |
| ACCIDENTS, in childhood (ed)  |  | breast, hormone therapy for (*)                          | 403  |
| AMENORRHEA (cc)   |  | breast, radiation therapy for (*)                        | 402  |
| AMYOTROPHIC LATERAL SCLEROSIS (cc)  |  | breast, surgery for (*)                                  | 400  |
| ANEMIA, cobalt therapy in (ed)  |  | bronchogenic, asymptomatic (*)                           | 283  |
| ANESTHESIA  |  | hepatic duct (cpc)                                       | 60   |
| in general practice (*)   |  | CANDY MEDICATION, hazards of (ed)                        | 233  |
| pentothal (ed)  |  | CLINICOPATHOLOGIC CONFERENCE                             | 20, 60, 99, 184, 226, 261, 337, 372, 420                 |
| ANNOUNCEMENTS   |  | COBALT: see Anemia                                       |  |
| 36, 115, 149, 197, 241, 279, 312, 354, 394, 432, 471  |  | COLON  |  |
| ANTICOAGULANTS, use of (*)  |  | amebiasis and tuberculous (*)                            | 317  |
| ANUS, pruritus ani (*)  |  | complications, surgical (*)                              | 325  |
| ARTERIES: see Homografts  |  | diverticulitis, lymphopathia venereum (*)                | 321  |
| large, occlusive disease of (cc)  |  | ileitis, regional and ulcerative colitis (*)             | 322  |
| ARTHRITIS, treatment of (ed)  |  | DEATHS   | 31, 69, 112, 145, 193, 235, 274, 307, 350, 387, 428, 466 |
| BACTERIA, Gram-negative, susceptibility to antimicrobial drugs (*)  |  | DIGITALIS, its use (cc)                                  | 332  |
| BLASTOMYCOSIS, systemic, hydroxystilbamidine in (ed)  |  | DISEASE, iatrogenic (*)                                  | 253  |
| BLUE CROSS: see Medical Care  |  | DOCTOR   |  |
| BONES   |  | in court (ed)  | 381  |
| Cortical hyperostosis, infantile, etiology and therapy (*)  |  | as a witness (*)   | 382  |
| fractures, complicated by thoracic injuries (*)   |  | EMBOLISM, paradoxical (cpc)                              | 420  |
| fractures, definitive care of (*)   |  | ENDOCARDITIS: see Heart                                  |  |
| fracture patient, neurosurgical complications (*)   |  | ESOPHAGUS  |  |
| injured, immediate management of (*)  |  | cardiospasm (cc)   | 90   |
| intra-abdominal injuries complicating (*)   |  | lesions, surgical management of (*)                      | 124  |
| symposium on, remarks by moderator (*)  |  | spontaneous rupture (*)                                  | 407  |
| symposium, summary (*)  |  | varices, bleeding, management (cc)                       | 13   |
| BOOK REVIEWS  |  | EXAMINATION, neurologic, in office (*)                   | 328  |
| 36, 75, 114, 149, 240, 311, 393   |  | EXOPHTHALMOS, unilateral, due to lacrimal gland cyst (*) | 11   |
|   |  | HEAD, injuries, treatment of (*)                         | 357  |
|   |  | HEART  |  |
|   |  | cardiac arrest (ed)                                      | 463  |



- cardiology for general practitioner (ab) 123  
 care of cardiacs, pitfalls in (ab) 260  
 digitalis, its use (cc) 332  
 disease, rheumatic, auricular thrombus (cpc) 226  
 endocarditis, subacute bacterial, treatment of (ab) 12  
 infarction, myocardial, QRS deformity (ab) 55  
 malformations, congenital (ab) 301  
 mitral commissurotomy, selection of patients for surgery (ab) 361  
 mitral stenosis, valvuloplasty, late results (ab) 327  
 pulmonic stenosis, isolated, valvuloplasty (ab) 10  
**HEMORRHAGE**  
 prediction of, during or following surgical procedures (\*) 1  
 uterine, abnormal (\*) 362  
**HEPATITIS** (\*) 290  
**HISTOPLASMOSIS** (cpc) 261  
 treatment with MRD-112 (\*) 411  
**HOMOCRAFTS**, arterial, clinical experience with (\*) 435  
**HOSPITALIZATION**: see Medical Care  
**HYPERTENSION**  
 lability as related to prognosis (ed) 143  
 management, use of drugs in (\*) 243  
**HYPOGLYCEMIA**, spontaneous (\*) 81  
**HYSTERECTOMY**: see Uterus  
**INJURIES**: see part.  
**INSULINS**, new (ed) 303  
**INTESTINE**  
 amebiasis and tuberculosis (\*) 317  
 complications, surgical (\*) 325  
 ileitis, regional and ulcerative colitis (\*) 322  
 ileus, diagnosis and treatment of (\*) 452  
 obstruction (\*) 136  
 parasitism (ed) 66  
**KIDNEY**  
 infection, treatment of (\*) 367  
 Kimmelstiel-Wilson Disease, clinical features of (ab) 84  
 renal disease, chronic, management of (\*) 286  
**KIMMELSTIEL-WILSON DISEASE**: see Kidney  
**LIPOGRANULOMA**, sclerosing (cpc) 337  
**LIVER**, portal hypertension, esophageal varices, bleeding, management (cc) 6  
**LUNG**, emphysema, chronic (\*) 215  
**MALPRACTICE** suits (ed) 67  
**MEDICAL CARE**  
 blue cross, a decade of (ed) 381  
 federal spending in (ed) 427  
 hospitalization, improper utilization and accreditation (\*) 203  
 hospitalization insurance, improper usage of (ed) 234  
 indigent, hospitalization for (ed) 304  
 indigent, hospital service for (\*) 304  
 medically indigent, hospitalization for (ed) 68  
 prepaid health insurance, future of (ed) 30  
**MEDICAL EDUCATION**, income tax time (ed) 465  
**MEDICAL NEWS IN TENNESSEE** 33, 73, 113, 147, 195, 237, 274, 309, 352, 389, 430, 468  
**MEDICINE**, a sacred trust 141  
**MENINGITIS**, *Cryptococcus neoformans* (cc) 458  
**NATIONAL NEWS** 32, 73, 113, 146, 194, 237, 274, 308, 351, 388, 429, 467  
**NEUROLOGY**: see Examination  
**NEUROSIS**, traumatic, malingerer (\*) 384  
**NEWBORN**, mortality report, five-year (\*) 293  
**PARALYSIS**, due to tick bite (\*) 77  
**PARASITES**, intestinal (ed) 66  
**PERSONAL NEWS** 34, 74, 114, 148, 196, 239, 278, 310, 353, 392, 432, 470  
**PITUITARY**  
 hypophysectomy in diabetes (ab) 120  
 Sheehan's Syndrome (\*) 448  
**PLACEMENT SERVICE** 76, 116, 198, 314, 355, 434  
**POLIOMYELITIS**, vaccination program 347  
**PORTAL HYPERTENSION**: see Liver  
**PRESIDENT'S LETTER** 26, 65, 102, 142, 193, 232, 268, 302, 342, 379, 425, 462  
**PROGRAMS AND NEWS OF MEDICAL SOCIETIES** 31, 72, 112, 145, 194, 235, 274, 307, 350, 388, 428, 466  
**PSYCHOLOGY**, practice of (ed) 144  
**RHEUMATIC FEVER**, first attack, prevention of (ab) 457  
**SCLERODERMA** (ed) 29  
**SHEEHAN'S SYNDROME**: see Pituitary  
**SOCIAL SECURITY**, where is it taking us (ed) 464  
**SPINAL CORD**, chordoma (cc) 416  
**STAFF CONFERENCE** 13, 56, 90, 297, 332, 416, 458  
**TENNESSEE MEDICAL FOUNDATION**  
 medical foundation (ed) 270  
 the problem 271  
**TENNESSEE STATE MEDICAL ASSOCIATION**  
 annual session (ed) 193  
 annual session, program for 71  
 board of trustees, proceedings of 181  
 council, minutes of 169  
 house of delegates, proceedings of 151  
 in our house are many mansions (address of retiring president) 121  
 membership roster 473  
 our sacred trust (presidential address) 117  
 postgraduate program (ed) 104  
 postgraduate program, new (ed) 346  
 reports of officers and committees 171  
 scientific program for 1955 (ed) 103  
 scientific program 106  
**THORAX**, injuries, diagnosis and treatment (\*) 49  
**TRAUMA**: see part.  
**TUBERCULOSIS**, pulmonary, chemotherapy and antibiotic therapy, trends in (\*) 6  
**TUMOR**  
 giant cell of knee (cpc) 184  
 leiomyosarcoma (cpc) 99  
**TYPHOID FEVER** (cpc) 20  
**UTERUS**  
 abnormal bleeding (\*) 362  
 postpartum, manual examination of (\*) 446  
 indications for hysterectomy (\*) 219  
**WOMAN'S AUXILIARY** 35







*From the  
Executive Secretary*

## ORGANIZATIONAL NEWS

### **Malpractice-Liability Insurance Watchdog Committee Authorized**

• An important matter was determined by the Board of Trustees at the Semi-Annual Meeting in November. It had to do with the establishing of two new committees. A "Liability Insurance Rate Study Committee" was authorized for the purpose of having a means of counseling with the Commissioner of Insurance and Banking in Tennessee on any further changes in premiums for malpractice and liability insurance. This committee will consist of three members from each grand division of the State. Members of the Committee are to be named.

### **Council to Advise Physicians Faced with Liability Suits**

• Members of the TSMA have requested that another Committee be established from which doctors might seek counsel and advice when faced with malpractice or liability suits. The Board of Trustees determined that this service could be best rendered by the Council. The Chairman and members of the Council have been asked to familiarize themselves on this particular matter in order that the Councilors in the various districts of the State can better serve the profession as advisors when called upon.

### **Medical Malpractice Insurance**

• Recently, doctors have heard the bad news that the Insurance and Banking Commission in Tennessee has authorized a 50% increase in rates for malpractice and liability insurance. The new rate was granted after the Commission was convinced that underwriters in the malpractice insurance field had shown a continued loss.

### **Many Reasons for Increase**

• There are many reasons for the marked increase in the number of malpractice suits. As a result, your State Association and the Board of Trustees are trying to do something about it. Thus, the reason for establishing the Advisory Committee through the Council and also a Study Committee in order to keep down any further increases in malpractice rates.

### **Tennessee Plan at All-Time High 764,628 Insured**

• The Tennessee Plan continues to show phenomenal growth. From January 1 to September 1, 1954, the plan increased by more than 140,000 insured persons. As of that date, the plan covered 527,727 insured employees and 236,899 dependents for a total coverage of 764,628 persons covered under the plan. It means that two out of every three persons covered by a surgical insurance policy in Tennessee is a Tennessee Plan Policy.

### **Prepaid Insurance Committee Studies Broadening of Plan**

• The Prepaid Insurance Committee of the TSMA met in Nashville on December 9th to (1) Hear a report upon the study in duplication of insurance policies held by patients. This study dealt with those policies held in addition to a plan such as The Tennessee Plan. (2) To arrive at some decision with regard to the Resolution presented in the House of Delegates at the last meeting of the Tennessee State Medical Association wherein physicians were not obligated to accept the fee schedule in the Tennessee Plan when policyholders held one or more additional surgical insurance policies. (3) To evaluate a report submitted by representatives of the Health Insurance Council on optional plans in the specialties of Medicine, Pathology, Anesthesiology and Radiology. Relative to duplication in surgical policies, the Committee adopted the following Resolution: "It was moved that in regard to the matter of duplicate policies and in view of sub-

sequent studies and information, no action should be taken by the Committee on this matter at the present time."

#### **Considers Expansion**

- Relative to expansion of the Tennessee Plan, a number of ideas were submitted by the Committee and the Health Insurance Council. The most discussed type of plan for these specialties was a deductible type. The Committee determined that the X-Ray and Therapy problem be studied further by the Executive Sub-Committee, with the idea of it being added to the existing surgical schedule. The Committee also recommended that medical benefits be studied for "In-hospital Service" only. This latter proposal is to be studied further. It was also directed that the Executive Sub-Committee of the Prepaid Insurance Committee continue to study the possibility of adopting some type of deductible plan.

#### **Annual Meeting Plans**

- Plans for the Annual Meeting of the Association which will be held in Chattanooga on April 10-13 are progressing. An increased number of specialty societies are planning to meet with the Association in 1955.

#### **House to Meet Sunday, April 10**

- The House of Delegates will meet on Sunday, April 10th, at 9:00 A.M. in the Chestnut Room of the Read House Hotel. It is expected that the House will remain in session until the latter part of the afternoon. Members of the House of Delegates include, (1) the elected delegates representing local medical societies, (2) officers, (3) Councilors, (4) Members of the Board of Trustees, (5) Past-Presidents. The second session of the House will begin at 9:00 A.M. on Tuesday, April 12.

#### **General Scientific Sessions**

- The general scientific sessions will be conducted on the mornings of April 11, 12 and 13 (Monday, Tuesday and Wednesday) in the main ballroom of the Read House. The afternoons of the same days are set aside for the scientific programs of the various specialty groups which are meeting concurrently with the State Association.

#### **Hotel Reservations**

- THIS IS IMPORTANT. RESERVATIONS ARE BEING HANDLED THROUGH CHATTANOOGANS, INC., 819 BROAD STREET, CHATTANOOGA 2, TENNESSEE. DO NOT WRITE TO THE HOTELS SINCE YOUR REQUEST WILL ONLY BE FORWARDED TO CHATTANOOGANS, INC. THROUGH THE COURTESY OF THE HOTELS, CHATTANOOGANS, INC., ARE HANDLING ALL RESERVATIONS. YOU WILL HEAR PROMPTLY FROM THEM, CONFIRMING YOUR RESERVATIONS AFTER YOU HAVE MADE A REQUEST. A NUMBER OF PHYSICIANS OVER THE STATE HAVE ALREADY MADE THEIR RESERVATIONS AND IT IS IMPORTANT THAT YOU WRITE TO CHATTANOOGANS, INC., AS EARLY AS POSSIBLY IN ORDER TO ASSURE RECEIVING THE TYPE OF ACCOMMODATIONS DESIRED. COUNTY SOCIETIES SHOULD PARTICULARLY CALL THIS TO THE ATTENTION OF THEIR MEMBERSHIP AND ESPECIALLY TO THE DELEGATES THAT WILL BE IN ATTENDANCE AT THE STATE MEETING.

#### **Exhibitors and Income**

- The largest number of exhibitors to participate in a state meeting will cooperate by exhibiting with the State Medical Association in Chattanooga next April. A total of 44 concerns will be represented. Every member attending the annual meeting is requested to visit the exhibit booths since it is only through the cooperation of such firms that we are able to conduct the state meeting without charging a registration fee. You are perhaps not aware of the fact that these exhibitors contribute \$6,600 to the State meeting. The exhibiting firms are an integral part of the meeting, saving physicians between \$15.00 and \$20.00 each in registration fees.

#### **P R Manual Available**

- A county medical public relations manual is now available to your County Society, if requested from the headquarters office of the TSMA. Designed expressly to show County Societies how to put their best PR-Foot forward, the manual is the end result of years of research into successful public relations programs across the nation. We have examined the manual and it looks good. It has been noted with interest that several of our own state Societies' programs as well as county society ideas have been incorporated into the manual.



# Public Service

## THE TENNESSEE TEN

### New Board Is Sought for Opticians

• An important piece of legislation supported by the TSMA in the 1955 General Assembly is the measure to license and regulate Ophthalmic Dispensers in Tennessee. This measure would create the "Tennessee Board of Dispensing Opticians."

A superb job of preparing the way for this legislation has been executed by Dr. Lee Cayce of Nashville, Chairman of the Legislative Committee of the Tennessee Academy of Ophthalmologists, and Mr. Roy Andrews, Chairman of the Tennessee Society of Dispensing Opticians.

It is well to know about opposition to such legislation on the national scene. In June of 1954, the American Optometric Association approved a resolution which said in part:

"RESOLVED, that it is the stated policy of the American Optometric Association in convention assembled that THE FIELD OF VISUAL CARE IS THE FIELD OF OPTOMETRY AND SHOULD BE EXCLUSIVELY THE FIELD OF OPTOMETRY."

"RESOLVED, that the individual state associations are recommended to make serious study of the optometry laws prevailing in their states to the end that EXEMPTIONS BE RESTRICTED, LIMITED AND ULTIMATELY ELIMINATED."

The act proposed in Tennessee will not interfere with dispensing done by physicians or optometrists or persons working under their direct supervision, and it specifically permits them to hire a licensed dispenser if they so desire or to employ persons working directly under them who do not have a dispensing license. It does not infringe on the laws governing the physician or ophthalmologist in any manner whatsoever.

There is a definite public demand for this legislation. The public is demanding protection from unscrupulous, and in most instances out-of-state, advertisers and operators. Without this act, certain groups would be the sole dispenser of eye glasses, and therefore in a position to dictate all prices and policies with reference to eye glasses. The Act would protect the public against inferior workmanship, false advertising, and establish a standard of ethics for the dispensers. Legislative Committees of local medical societies are urged to contact their own legislators, in person if possible, and urge support for this measure designed to protect the public.

### Medico-Legal Clinic Lauded by AMA

• At the request of the Public Service Committee, the new Committee on Liaison to the State Bar Association has been conducting Medico-Legal Clinics. The Clinics have been conducted so far in Jackson, Chattanooga and Knoxville. Doctor George F. Lull, Secretary-General Manager of the AMA, had this to say in his Secretary's Letter of December 20 concerning the Clinic in Knoxville:

"HOW LAWYERS AND DOCTORS CAN WORK TOGETHER. Mr. George Hall of the A.M.A. Law Department recently attended the 15th Law Institute of the University of Tennessee College of Law in Knoxville.

"This year, the Knoxville Academy of Medicine participated in the Institute, which highlighted medico-legal problems relating to personal injury actions.



"Under the enthusiastic leadership of Dr. Roy L. McDonald, 20 members of the Academy of Medicine gave of their time and talents to acquaint lawyers with fundamentals in anatomy, psychosomatic medicine, orthopedics, neuro-surgery and other specialties. The doctors also served as medical witnesses in a mock trial.

"When he returned to headquarters, Mr. Hall said that he felt the Knoxville institute was one of the most outstanding he had ever attended, and he added that the many lawyers present were highly appreciative of the physicians' help."

#### **Ownership of Drug Stores by Physicians**

• The question has been asked many times concerning the ethics of physicians owning a drug store or a part of a drug store. The American Medical Association, in its San Francisco meeting in 1952, incorporated a new section into its Code of Ethics which reads as follows:

"Section 8.—It is unethical for a physician to participate in the ownership of a drugstore in his medical practice area unless adequate drugstore facilities are otherwise unavailable. This inadequacy must be confirmed by his component medical society. The same principle applies to physicians who dispense drugs and appliances. In both instances, the practice is unethical if secrecy and coercion are employed or if financial interest is placed above the quality of medical care. On the other hand, sometimes it may be advisable and even necessary for physicians to provide certain appliances or remedies without profit which patients cannot procure from other sources."

#### **Youth Feels Responsibility for Health**

• The TSMA reaches the youth of Tennessee through its annual health project contest. The response of Tennessee school students, and their obvious interest in health and medical care, has been most heartening. Last year the TSMA also sponsored a health demonstration project at the Annual Round-Up of 4-H Club Members at the University of Tennessee in Knoxville. As an example of the feeling and thinking of such young people concerning health and their responsibilities in this field, we are reprinting here a letter from the youth who won the demonstration in Knoxville and went on to represent Tennessee at the 4-H National Congress in Chicago. The letter follows:

"I wish I knew words to express my gratitude to you for sponsoring my trip to 4-H Round-Up. It just isn't adequate when I say I enjoyed every minute or that I feel it was the most worthwhile week of my life. Please believe me though when I say these simple words, 'Thank you,' for I mean it most sincerely.

"My health project is very interesting and has made me appreciate my good health. I know it is my one priceless gem. I shall always protect and preserve it. In my small way, I shall continue to help my family and my community to have better health; for what could be more rewarding?

"It is with all humility and yet a great sense of pride that I go to National 4-H Club Congress as Tennessee State winner. I feel I owe you this promise. I shall do my very best to bring honor to our beloved State of Tennessee, so that everyone will know the 4-H members of our State have a sense of values. God first, then good health which it is our joy and duty to protect and preserve.

"If at any time I can ever be of service to you please feel free to call on me. I shall be happy to oblige.

"Sincerely,

"LARRY BARBER

"Palmersville, Tennessee"

*From the  
Executive Secretary*

## ORGANIZATIONAL NEWS

### **Advertising Income Moves Upward— 36.6% Increase**

• Advertising income for the Journal of the Association revealed a sharp upturn during 1954. Increase in advertising received from the State Journal Advertising Bureau (our national ad representative) showed an increase over the year 1953—one of the highest gains ever shown in the Journal. The average gain in advertising for other medical publications around the country was from 5% to 10%. We have been able to increase our over-all advertising lineage by 36.6%. This increase has put the Journal in the "black," thus giving it the distinction of being one of the few state medical journals that is operating without a deficit and places it among the three or four publications where no part of membership dues is allocated to journal expense. With the advertising contracts now in force, the future looks exceedingly good to maintain the present level of advertising income.

### **A Request—County Society Secretaries Please Note**

• Secretaries of County Medical Societies who have not done so, are urged to get the list of 1955 Officers, Delegates and Candidates for the General Practitioners' Award to the Executive Secretary at the earliest possible time. This information is essential for the Journal, for publication of the handbook of the House of Delegates, and for the official program and preliminary mailing pieces. We urge you to act now, as we particularly need the list of Delegates from which the speaker will appoint important reference committees.

### **More About Annual Meeting**

• Make your plans to attend the Annual Meeting of the Association in Chattanooga, April 10-13. The Read House will be Headquarters, with a number of the activities being conducted in the Patten Hotel. Plenty of rooms are yet available. Please make your Hotel reservations now—directly to Chattanooga, Inc., 819 Broad Street, Chattanooga, Tennessee. Don't delay.

### **Fifteen Specialty Groups to Meet with TSMA During Annual Meeting**

• Fifteen Specialty Groups will meet during the TSMA Annual Meeting in April. This is the largest number of specialty societies ever to conduct their sessions in conjunction with the Annual Meeting. The coordination of such a program requires the maximum amount of efficiency and planning in order to run a large meeting of this kind. Practically all of the hotel facilities available in the Read House and Patten Hotel will be utilized. Promotional material and a complete outline and synopsis of the meeting is contained elsewhere in this issue. Please read it and familiarize yourself with the interesting meeting that will be conducted in April.

### **Please Visit the Exhibits**

### **Exhibitors Important**

• A common complaint from exhibitors is physician interest and traffic at the display booths. Few Doctors realize the importance of the pharmaceutical concerns and the related organizations that rent exhibit space from us during the Annual Meeting. The amount of money that is funneled into the Association from these sources is significant. The exhibitors are a part of the medical team. They eliminate the necessity of you paying a registration fee at the State Meeting. They enable us to conduct an effective meeting where the exhibitors largely "pay the freight."



## **Here Is How You Can Help**

### **Again an Exhibitors Committee**

• There is plenty that physicians can do about keeping the exhibitors happy. Our relations with the exhibiting firms is a two-way street. Your interest must be manifested to them. Your help is needed. Stop by and visit the exhibit booths at this year's meeting.

### **Exhibitors Contribution to Meeting**

• The idea introduced in 1954 is to be followed again this year. An Exhibitors Committee will again function, made up of representatives of the firms that will be represented. This Committee will handle the problems that arise during the meeting. They will assist in arrangements and will be on the floor during the meeting to assist exhibitors in every possible way.

### **Do Your Part to Make Meeting a Success**

• They will iron out complaints, and do their best to give you the finest and most cooperative displays as possible. The exhibitors will add greatly to the scientific value of the meeting and will pay rental fees for booth spaces in the amount of \$6,600 for the privilege of being on hand to greet you.

• Physicians can, with profit to themselves, guarantee a "successful meeting for the exhibitors" by visiting every booth, viewing their presentation and expressing appreciation for their contribution to a fine meeting. There is only one reason why these firms will be with us this year—and in the future—and that is to make physician contacts. The success of the exhibits is up to you.

### **Medical Foundation Holds Important Meeting**

• Members of the Board of Directors and the Committee on Health and Medical Care of the Tennessee Medical Foundation met in Nashville on January 23rd. Mr. W. A. Massie, newly employed Field Secretary of the Tennessee Medical Foundation, was introduced and the planning for his future work and the operation of his office was worked out in detail.

### **Membership Drive for Medical Foundation Underway**

• A membership drive for the Foundation is soon to be instituted among the doctors in Tennessee. The quota is to obtain 1,000 new members by April. Voting membership dues in the Medical Foundation have been reduced from \$25.00 to \$10.00.

### **TMF Membership to Meet**

• A general membership meeting of the Tennessee Medical Foundation will be held on Wednesday, April 13th, in Chattanooga during the Annual Meeting of the State Medical Association. Members of the Board of Directors will be elected by the membership at this meeting and other important business will be presented. Following the election of Board members, the Board will in turn select the officers of the Foundation for the year 1955-56.

### **TSMA Grievance Committee Meets**

• The Association's Grievance Committee held an important meeting in Nashville on January 23 for the purpose of reviewing several complaints referred to the Committee, and to determine the proper action relative to the grievances presented. The gratifying phase of this work, as observed by the State Association's Grievance Committee, is to learn of the determined hard work and the accomplishments of the County Societies Grievance Committees. A great many more cases would come before the State Committee if it were not for the excellent manner in which many County Medical Societies are handling these problems on a local level.

### **Encouraging News About a Standardized Insurance Claim Form**

• Insurance Companies writing approximately 85% of the Group accident and health premium volume in the United States have agreed to form GS-1 which is a simplified insurance claim form. Some 600 insurance companies have okayed the form. It appears that it won't be long before the standardized form will be an official reality.



# Public Service

THE TENNESSEE TEN

## TSMA Has a Strong Program in Legislature

• A strong legislative program designed to protect the health and welfare of all Tennesseans has been started through the 1955 General Assembly by Dr. C. M. Hamilton and the four other members of the TSMA Committee on Legislation and Public Policy. The other members are Doctors T. R. Ray, Shelbyville, Herbert L. Pope, Knoxville, James Stanford, Memphis, and Frank Harris, Chattanooga.

For the first time in history, we now have four physicians in the legislature. They are Dr. Ray, Dr. J. H. Gammon of Knoxville, both in the Senate, Dr. James O. Walker, Franklin, and Dr. L. S. Nease, Newport, in the House. These men are serving well their Medical Association, as well as their own constituents, by introducing and working for our legislation. The measures are as follows:

• 1. An item in the Budget of the Public Health Department to be earmarked for the "Hospital Service for the Indigent Act." The exact amount of this appropriation has not been decided but we hope to obtain \$1,600,000 for the biennium beginning July 1, 1955. This piece of legislative business will be taken up about March 1 or earlier and every member of the TSMA is urged to personally contact his legislators and urge support of the appropriation. Approval of an adequate appropriation for the financing of this Law will culminate a four-year campaign by the Public Service Committee of the Association. Thirty-two other State Medical Associations are copying this program and President Eisenhower has called it the best answer, yet devised, to Socialized Medicine.

## Autopsy Bill Needs Support

• 2. A Bill to Simplify and Clarify the law granting consent for an autopsy. This measure has passed the Senate but, as usual, will meet some opposition in the House due to lack of understanding of the importance of the autopsy in the continuing advance of Medical Science. Please see your legislator and urge his support of a measure that may save his own life or that of his relatives. The opposition is based on the old lament: "Don't Let Them Desecrate the Body."

• 3. A Measure to Compel Ambulance Drivers to Take Standard Training in First Aid, and to Require Standard Life-Saving Equipment in Ambulances in Tennessee. This is a part of the legislative program of the various State Trauma Committees of the American College of Surgeons. Dr. Nease, and Mr. Ted Morris, of Johnson City, introduced the bill in the House and it undoubtedly will be opposed by numerous operators of ambulances. Your help is especially needed here.

• 4. The Bill to License Opticians. This legislation, almost passed in 1953, has created quite a stir on Capitol Hill but appears headed for adoption. It is on the Senate Calendar for Tuesday, February 8. If it passes that branch, it must go to the House for consideration and your support will be needed there. One of the two statewide organizations of Optometrists has introduced legislation designed to

place the Opticians under the Board of Optometry, a blatant piece of monopolistic maneuvering. The other organization for Optometrists is favoring our bill and should be commended and thanked. Opticians are described in simple language as the professional people who grind lenses and fit spectacles only on prescription by an M.D. They need and deserve our utmost efforts in the legislature.

#### Physiotherapists Need License

• 5. A Measure to License and Regulate Physiotherapists. This is an Act to protect and encourage vital members of the medical team—the physical therapists—who render invaluable service in the treatment of polio victims, traffic accident victims, and numerous other patients in need of current and follow-up treatment as the physician handles the case. Physiotherapists must have advanced and high-standard training even after they become Registered Nurses. The bill was introduced in the House by Dr. Walker and Dr. Nease. The contact is Mrs. Dorothy Fredrickson, head of the Physiotherapy Unit at Vanderbilt University Hospital. This bill will not create any new board. The licensing will be done by the Healing Arts Board.

• 6. An Act to Permit Medical Doctors to Insert Professional Cards in the Journal of the Tennessee State Medical Association. This privilege was legal until passage of the bill which outlawed the practice of Naturopathy in Tennessee. Present law is discriminating against our own physicians who insert clinic advertisements in the Journal without the privilege of naming clinic staff members. Such as the Carrol Turner Sanatorium of Memphis. Yet, competing Sanatoria operating in other States may advertise in our Journal and list the names of staff members. We do not anticipate any opposition. The bill does not affect any other profession under jurisdiction of the State Board of Healing Arts.

#### Psychology Act to Be Changed

• 7. An Amendment to a 1953 Act Licensing Psychologists. This amendment would allow State Mental Institutions to employ psychologists. It also would correct two technical provisions of the 1953 Act to make it conform to the general law on the Healing Arts. It is sponsored by the Tennessee Society of Psychologists and approved and introduced by the TSMA Committee on Legislation and Public Policy.

These are the major bills sponsored by the TSMA, with the exception of a number of measures requested by Dr. R. H. Hutcheson, State Commissioner of Public Health. Dr. Hutcheson, as always during legislative sessions, is a watchdog and steering force of TSMA legislation and deserves special support in his own Assembly campaign. Prompt response to any request he may make is our only, and best, way of thanking him.

Another gentleman deserving our strong support is Dr. Cy Ruilman, head man of the Governor's Mental Health Department. He has seven bills in the mill dealing with the operation of his Department, especially the Mental Institutions and their inmates. Your support is needed and will be appreciated.

It appears that any bill calling for additional funds from the State Treasury will be impotent unless new tax bills are enacted to increase State revenue by many millions of dollars annually. Our only measure calling for additional funds is the appropriation for adequate financing of the "Hospital Service for the Indigent Act." Elsewhere in this Journal, under "Special Article," you will find a report dealing with a new organization formed to seek this goal.



*From the  
Executive Secretary*

## ORGANIZATIONAL NEWS

### **See the Program for Your Annual Meeting**

● Contained in this issue is a detailed program of the Annual Meeting. The largest number (15) of specialty societies ever to meet jointly with the Association have scheduled sessions in Chattanooga from April 10 through 13. On the business side will be two important sessions of the House of Delegates—the policy making body of the Association.

### **Members Are Invited to Visit the House of Delegates**

● Members of the Association who plan to attend the State Meeting and arrive on Sunday are invited to attend the meeting of the House of Delegates. The first session of the House will be in the Chestnut Room of the Read House in Chattanooga on Sunday, April 10. Members who have not served as delegates will find a well organized body dealing effectively with the policy affairs of the Association. There is no better way to gain first-hand knowledge of your Association than to hear the reports and proceedings. A visit to the House will be informative and stimulating. You are welcome to attend.

### **TSMA Legislative Program Successful**

### **Here Is Some of the Action**

● Legislation sponsored by the TSMA has been successful to date in the Tennessee General Assembly. A number of bills have already been passed by both Houses. Following are a few of those acted upon and a brief comment on each. (1) Ophthalmic Dispensers Bill, SB-71 and HB-101—a measure to license and regulate dispensing opticians. After much discussion and debate, this bill has passed the House and Senate. (2) Professional Advertising, SB-75 and HB-96—A technical measure to permit medical doctors to announce their names, addresses and specialties in their own organization's medical Journal, such as the Journal of TSMA. The publications are such that are not distributed to the general public. This measure has been passed by both Houses. (3) Doctors to Testify in Court, SB-146 and HB-130—This is a measure that would make it mandatory for doctors to testify when summoned in civil courts. This bill was passed by the House but through the efforts of the TSMA the Bill was tabled in the Senate, and therefore is dead for this session. The passage of this law would have created a hardship on doctors who would be forced to go to court instead of furnishing a deposition. Several bills remain yet to be acted upon.

### **Much Time and Work Is Expended**

● An enormous amount of work is carried on daily by members of the Legislative and Public Policy Committee, along with the staff of your Headquarters office during the Legislature which is now in session. It requires constant vigil to push our measures to conclusion as well as to be alert for those bills introduced which would be obstructive to organized medicine and medical practice. Many of you have been contacted for help with Senators and Representatives from your respective counties. No effort will be spared to gain the ends set forth in the Legislative program of the TSMA during the remaining days of the Legislative Session.

### **Send in Your Resolutions**

● When your County Medical Society passes any Resolution which will be introduced on the floor of the House of Delegates in April at the annual meeting, a copy should be sent to the Executive Secretary as soon as possible. It will be helpful to receive these resolutions in order that they may



be properly scheduled before the House of Delegates. Please send four copies of such resolutions in order that all members of the reference committees will have printed copies to consider.

**Financial Operating  
Statement**

● Following is the financial operating statement showing the income and expenses of the Association during 1954. This report is taken from the Annual Audit made by the firm of Osborn & Page, Certified Public Accountants.

From the Audit Report of:

OSBORN & PAGE

Certified Public Accountants

TENNESSEE STATE MEDICAL ASSOCIATION

Statement of Operations

Year Ended December 31, 1954

Income:

|                             |             |
|-----------------------------|-------------|
| Dues                        | \$54,097.50 |
| Journal Advertising         | 21,327.40   |
| Exhibit Rental              | 5,100.00    |
| Property Rental (Net)       | 330.82      |
| Collection of A. M. A. Dues | 518.91      |
| Miscellaneous Income        | 475.04      |

Total Income

\$81,849.67

Expenses:

Organizational Department

General:

|                                   |             |
|-----------------------------------|-------------|
| Journal                           | \$15,779.59 |
| Salaries                          | 14,116.67   |
| Travel                            | 595.82      |
| Rent                              | 1,504.25    |
| Telephone                         | 447.47      |
| Printing                          | 1,718.86    |
| Clipping Service                  | 193.21      |
| Auditing                          | 290.62      |
| Editor's Honorarium               | 3,600.00    |
| Treasurer's Honorarium            | 100.00      |
| Committee Expense                 | 469.06      |
| Board of Trustees                 | 168.68      |
| Delegates to A.M.A.               | 1,722.54    |
| Annual Meeting                    | 3,752.22    |
| Attorney Fees                     | 2,250.00    |
| Health Project                    | 410.28      |
| Postgraduate Instruction          | 10,000.00   |
| Bonds                             | 250.00      |
| Miscellaneous                     | 410.40      |
| Payroll Taxes                     | 260.89      |
| Veterans Affairs                  | 904.53      |
| Women's Auxiliary                 | 1,075.79    |
| Depreciation on Capital Equipment | 533.52      |

Total General Expenses

\$60,554.40

Public Service:

|                |             |
|----------------|-------------|
| Salaries       | \$11,200.00 |
| Travel         | 3,466.77    |
| Rent           | 1,002.84    |
| Telephone      | 1,620.66    |
| Printing       | 1,522.24    |
| Committee      | 26.44       |
| Payroll Taxes  | 132.00      |
| Annual Meeting | 532.59      |

Total Public Service Expenses

19,503.54

Total Expenses

80,057.94

Excess of Income over Expenses

\$ 1,791.73

# Public Service

THE TENNESSEE TEN

## *Hospital Accreditation Clinic is Convention Feature*

Voice of Authority



Dr. Kenneth Babcock

Program Note: Since the formation of the national Joint Commission on Accreditation of Hospitals, there has been increasing interest in this set-up. So, as the contribution of the Public Service Committee to the TSMA convention program in Chattanooga, Dr. Kenneth B. Babcock, Director of the Commission, will be presented as the conductor of an open forum Clinic on Accreditation. The date: April 12. The place: Hotel Patten Ballroom. The hour: 2 p.m. Special invitations have been issued to every Hospital Administrator in Tennessee. Physicians are urged to attend whether they operate hospitals or not.

Presiding: Dr. John R. Thompson, Jr., President of T.S.M.A.

### *Panel of Tennessee Officials*

SISTER CATHERINE FINKS

*Administrator, St. Thomas Hospital, Nashville*

MISS MARY JANE LIVINGSTON

*Director, State Division, Hospital Services*

FRANK GRONER

*Administrator, Baptist Hospital, Memphis*

ERNEST BLISS

*Administrator, Jackson-Madison County Hospital*

STEVE HICKOK

*Administrator, Jackson County Hospital*

THE AMERICAN COLLEGE of SURGEONS  
INVITES THE MEDICAL PROFESSION  
TO A SECTIONAL MEETING  
APRIL 4-6, NASHVILLE, TENNESSEE

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MORNING HOSPITAL CLINICS AT

GEORGE W. HUBBARD HOSPITAL  
MID-STATE BAPTIST HOSPITAL  
NASHVILLE GENERAL HOSPITAL

ST. THOMAS HOSPITAL  
VANDERBILT UNIVERSITY HOSPITAL  
THAYER VETERANS ADMINISTRATION  
HOSPITAL

PROGRAM AT WAR MEMORIAL BUILDING

PANEL DISCUSSIONS

Childbirth Injuries

Peptic Ulcer

NUMEROUS PAPERS, MOTION PICTURES

SYMPOSIA

Trauma

Vascular Surgery

Cancer

SPEAKING TALENT

William A. Altemeier, *Cincinnati*  
Alfred Blalock, *Baltimore*  
Richard B. Cattell, *Boston*  
Frederick W. Cooper, Jr., *Emory University*  
Michael E. DeBakey, *Houston*  
Frederick A. dePeyster, *Chicago*  
Clarence E. Gardner, *Durham*  
R. Kennedy Gilchrist, *Chicago*  
Charles E. Haines, Jr., *Nashville*  
Harry W. Hale, Jr., *Buffalo*  
Norman L. Higinbotham, *New York*

Stanley O. Hoerr, *Cleveland*  
Robert H. Kennedy, *New York*  
W. E. Kittredge, *New Orleans*  
Hayes E. Martin, *New York*  
William F. Meacham, *Nashville*  
Moore Moore, Jr., *Memphis*  
Rudolf J. Noer, *Louisville*  
Greer Ricketson, *Nashville*  
Robert C. Robertson, *Chattanooga*  
Harris B. Shumacker, Jr., *Indianapolis*

Howard C. Taylor, Jr., *New York*  
Howard Ulfelder, *Boston*  
David H. Waterman, *Knoxville*  
John M. Waugh, *Rochester, Minnesota*  
John C. Weed, *New Orleans*  
Frank E. Whitacre, *Nashville*  
H. Thurston Whitaker, *Vicksburg*  
Harwell Wilson, *Memphis*  
George H. Yeager, *Baltimore*  
Robert M. Zollinger, *Columbus*

JAMES A. KIRTLEY, M.D., F.A.C.S.  
Chairman, Advisory Committee on Arrangements



**Cancer Committee Meeting**

● The Committee on Cancer of the Tennessee State Medical Association met in Nashville on March 20th under the Chairmanship of Dr. R. H. Monger of Knoxville. The Committee adopted a very comprehensive and long range program, which when realized, will be a considerable contribution to the fight against cancer.

**Committees Function**

● It was determined that the committee should function as a liaison between the State Medical Association and the Tennessee Division of the American Cancer Society. It was also believed the particular responsibility should be education to doctors, and members of the committee carefully reviewed the several postgraduate courses in cancer that had been presented in past years throughout the state. One of the committee members stated that it should be a duty to educate County Governments to take a new look at caring for long term cancer patients. It is going to be one of the functions of the committee to make available to all county medical societies movies and other programs on cancer. It was also determined that the committee should investigate the possibilities of further public education and to supplement where possible public education work being done by other organizations interested in cancer.

**Further Public Education**

**Assistance from Cancer Society**

● Dr. Hollis E. Johnson, Nashville, Chairman of the Professional Education Committee of the American Cancer Society, Tennessee Division, outlined to the committee the films, personnel and programs available from the Cancer Society to supplement the work of the committee of TSMA.

**Working Committees To Be Established Throughout State**

● The following motion was made by Dr. Carl McMurray, a member of the committee: "That the cancer committee of the TSMA set up committees in each grand division of the state to work with the Professional Education Committee of the American Cancer Society and that this Committee direct and encourage programs dealing with the diagnosis and treatment of all phases of cancer and to present programs on this subject in local medical societies whenever possible."

**To Study Expanded Assistance**

● A second resolution by Dr. Louis Rosenfeld, Nashville, a member of the committee, was presented and adopted as follows: "In view of the fact that Indigent Hospital Care Act excludes cancer patients from receiving financial aid and that local county courts often are derelict in the care of cancer patients from their respective counties, now therefore, it should be resolved that the Cancer Committee of the Tennessee State Medical Association recommend to the Public Service Committee of the TSMA to cooperate with the Cancer Committee and to take the necessary long range steps to extend the indigent hospital care act to cover Cancer patients."

**Publicity Media Studied**

● It was also determined by the Committee that a study should be made on the implementation of television and radio programs for public education in cooperation with the Cancer Society, for the furtherance of this type of work.

**Physicians Urged to Return Directory Information Card**

● During the last three months of 1954, the AMA Directory Department mailed to all physicians an information card to be filled out and returned so that data could be correctly listed in the new 19th edition of the American Medical Directory. If you have not yet mailed back your card, this is a reminder that the information is needed at once in order to be included in the directory.

**May Issue to Be  
Annual Meeting  
Reference Number**

● Watch for your May issue of the Journal. This year as in previous years, the May issue will be the "Annual Meeting Reference Number." It will be a valuable reference for the next full year. It will carry abstracts of the proceedings of the House of Delegates, Board of Trustees, Officers reports and a general summary of the entire 120th Annual Sessions to be held in Chattanooga, April 10-13. In addition to a complete resume of the meeting the May Journal will carry the new officers of the State Medical Association and of local county medical societies.

**Substitution of  
AMA Publication  
For Journal AMA**

● Members of the Tennessee State Medical Association and the AMA may, if they so desire, substitute one of the following publications for the Journal of the American Medical Association: Archives of Internal Medicine, Journal of Diseases of Children, Archives of Dermatology and Syphilology, Archives of Otolaryngology, Archives of Pathology, Archives of Ophthalmology, Archives of Industrial Hygiene and Occupational Medicine. Requests for the substitution of another publication for the JAMA should be mailed directly by the member to the American Medical Association, 535 North Dearborn, Chicago 10, Illinois.

**Annual Meeting  
Arrangements  
Committee**

● A big bouquet and a vote of thanks is due to the Committee on Arrangements of the Chattanooga-Hamilton County Medical Society for assisting the Headquarters staff and the various committees in arranging for the annual meeting. The committee consisted of Dr. Albert S. Easley, Chairman, with the others being Dr. Oscar B. Murray, Dr. J. Marsh Frere, Dr. Wm. E. Van Order, Dr. Charles L. Suggs and Dr. Chester G. Adams. Thank you gentlemen for a job well done.

**AMA Approves  
Simplified Insurance  
Claim Forms**

● Approval has been granted by AMA's Council on Medical Service to a simplified insurance claim form drafted by a special committee of the Health Insurance Council. The form is designed for use in administering surgical expense benefits under group insurance (such as the Tennessee Plan). Physicians who practice in areas where this type of insurance coverage is prevalent should be particularly interested in the development.

Eventually the Health Insurance Council hopes to have about six insurance blanks available to accommodate all of the various types of benefits. Only this form (GS-1) has been approved by AMA to date although the Council on Medical Service has suggested certain modifications in a second which has been approved "in principle." Copies of this form may be secured from the Council on Medical Service.

**TSMA Envoys**

● Representatives of the TSMA have attended a number of meetings in the past several weeks and months in order to keep us in touch with medical affairs on a national level. Dr. Frank Moore, Jackson, Chairman of the Committee on Emergency Medical Services has attended a regional conference on civil defense in Atlanta recently. Dr. Wm. N. Cook, Columbia, Chairman of the Rural Health Committee, spoke at a National Rural Health Conference in Milwaukee. Other Committee Chairmen and members of the Association are constantly spending many man-hours of time working on problems of organized medicine in Tennessee. These men make a big contribution to regional and national medical affairs. Valuable information is gathered and put to good use in our State.

**State Presidents  
Visit Annual Session**

● The presidents of the medical associations of North Carolina, South Carolina, Georgia, Mississippi and the Vice-President of the Kentucky State Medical Association were guests of the President of TSMA at the Annual Session just completed. The officers of these respective states were extremely generous with their comments of the excellent program and outstanding work and leadership being exemplified by the Tennessee State Medical Association. These gentlemen came to observe and went home with a feeling of value received.



# Public Service

THE TENNESSEE TEN

*(Because of the tremendous amount of work accomplished by the TSMA Committee on Public Policy and Legislation and several hundred doctors throughout the State who supported the Committee, we are publishing herewith the entire report given by Dr. C. M. Hamilton of Nashville, Chairman, to the House of Delegates on April 10.)*

Within the past year your Committee has tackled the most ambitious legislative program in recent history, with the exception of the 1947 campaign against naturopathy and an earlier fight for the nation's outstanding Basic Science Bill.

It has sponsored or actively supported sixteen measures and strongly opposed two. All sixteen of the bills sought were enacted into law. The two opposed were defeated. Although several concessions were made in passing some of this legislation, the results were more than satisfactory.

The major campaign was centered on an adequate appropriation to finance the "Hospital Service for Indigent Act," placed on the statute books in 1953. This report will not deal with this effort in detail because that Act and its further implementation has been the Number 1 project of the Public Service Committee and the details are left for the report of this Committee.

Although the appropriation of \$1,600,000 is needed, only \$300,000 was allotted. It is felt that participating counties will be pleased to know that state funds for indigents in hospitals will be doubled the next fiscal year. A single legislator who was not ready to go along with the original request could not be found, and it is believed that this same sentiment will prevail at the next session of the legislature.

The greatest controversy of the session was over a package of two bills, one to provide for licensing and regulating optical dispensers, and the other to place the Board under the State Board of Healing Arts. The Tennessee Society of Ophthalmology turned in a splendid job on these measures, despite several discouraging setbacks and determined opposition of one of the two statewide Optometric Societies. The other Optometric Society gave strong aid in the pinches. The Tennessee Society of Opticians was a powerful influence. Finally, these two bills were passed by by both houses and signed by the Governor. Public Welfare in the field of visual care should be served satisfactorily.

Another controversial measure actively sponsored was the bill to license and regulate Physiotherapists. Unlike the Opticians bill, this legislation did not require the creation of a new board. The physiotherapists will be directly under the Board of Healing Arts. In the fight on this bill it developed that some former naturopaths, who are now operating as "Physiotherapists," would be put out of business. A group of them made a belated but determined stand to kill the bill in the house, but it was passed 69 to 6. No opposition appeared in the Senate and the vote was favorable, 28 to nothing. There are 55 qualified physiotherapists in Tennessee, and now that licensure and regulation has been provided, more will be available to assist with certain type cases, such as polio, traffic and industrial accident victims, etc.

A sort of "medical family" bill to allow you to once again insert professional cards in the Journal of the Tennessee State Medical Association has been enacted. The bill also removed a discrimination by allowing the listing of staff members in Journal advertisements for clinics and



sanatoria. Such institutions in other states have been allowed to list their staffs in the Journal because they do not operate under Tennessee Law, while Tennessee institutions were not allowed this privilege. Now, they WILL have the privilege, and the discrimination is removed. Another minor measure sponsored made certain corrections in the 1953 Law licensing psychologists to make it conform to the general law of the Healing Arts. Psychologists are licensed by this Super Board.

Support was given to a series of measures strengthening existing laws on barbiturates, and one measure to conform with a new Act of Congress permitting oral prescriptions under certain conditions.

Aid was quietly given for all legislation introduced by the State Department of Public Health. And well it should be, because Dr. R. H. Hutcheson, the Commissioner, is the physicians' watchdog and bulwark on Capitol Hill.

Extreme difficulties and many obstacles were encountered in the passage of a bill to clarify and simplify the procedure for obtaining consent for an autopsy. Tennessee is one hundred and fifty-nine years old, and not until now has it had an autopsy law. Work has been done on this bill for four years, and it was almost lost in the past session. It passed the Senate unanimously, but became buried in the House Judiciary Committee. After several dozen telegrams, many personal visits to Committee members, telephone calls and letters, the bill finally got on the House Calendar four days before adjournment. It barely squeezed by, with only one vote to spare. An Amendment which would not waken the Bill was agreed upon. The Senate concurred in the Amendment and the Governor signed the bill into law. Now Autopsy permit forms will soon be distributed to doctors in hospitals throughout the State.

Since the last Convention, your Committee has met twice, the first time was a session with a Representative of the Washington Bureau of the American Medical Association. The purpose of this meeting was to become acquainted with medical legislation in Congress and to discuss the stands of the members of the Congress from Tennessee. This was a very beneficial meeting and a new departure from the regional meetings the AMA has been conducting. The second meeting brought in Representatives of a half dozen other organizations interested in medical legislation. Cooperation with all groups is essential and should be of mutual benefit to all concerned. Dr. H. L. Pope, Dr. T. R. Ray, and your Chairman attended both of these meetings.

Every session of the legislature convinces your Committee more and more that the members, all of them, MUST take greater interest and a more active part in the election of legislators, city councilmen, county courts, members of Congress, and Presidents of the United States. Some of the members say "Ho, don't get into politics." You must get into politics whether you like it or not. Politics is vital to our profession.

Do not be ashamed of lobbying. Why should you be? Lobbying for the health, and therefore happiness of the people, is a worthy cause. There is no special interest. Our efforts are for every person born in the State, and for the right to a sound mind in a strong body.

Your Committee makes this urgent appeal: When you learn of the appearance of any new candidate for office in your county or state, make every effort to inform that candidate of the needs of Tennessee to improve health conditions and medical care through progressive legislation. In doing that, you will automatically acquaint all candidates with the existence of organized medicine as a force working for the health and welfare of ALL Tennessee.

Red Sanders has stated that the players make the football coach. By the same token other workers make a Committee Chairman. It has been a pleasure to sit on the side line and watch the four horsemen, Dr. R. H. Hutcheson, Charles Cornelius, Ed Bridges and Jack Ballentine, gallop to victory. They have swept the slate of a difficult schedule clean. They were inspired by the cheers of the high step-

(Continued on page 150)

*From the  
Executive Secretary*

## ORGANIZATIONAL NEWS

### Annual Meeting Highlights

- TOTAL REGISTRATION — 754  
(619 physicians, 115 Exhibitors, 20 headquarters staff and assistants.) This is a 9% increase over last year. Total registration of the Woman's Auxiliary—213 members. Exhibitor Revenue—\$6,600.00—an all time high. Exhibitors Liaison Committee performed an outstanding job—one that contributes greatly to exhibitor relations and the smooth operation of this phase of the annual meeting. Work rooms were fully equipped and manned by competent members of the Headquarters Staff with added assistance from the Executives of County Medical Societies. An amazing amount of work was turned out on hours that went around the clock.

### A Successful Meeting

- This issue of the Journal is the Annual Meeting Reference Number. The pages contain the abstracted record of one of the most outstanding annual meetings in recent years. It was one of the best ever to be held in East Tennessee. Very little scientific material is contained in this issue as we are continuing the policy of publishing the proceedings of the Annual Session for the benefit of all the membership. It is our belief that a large number of the membership are interested in the "organized" side of medicine. Included in this issue is the record of an outstanding year and you will have this information readily available in one issue of the Journal. May we suggest that you file this copy for future reference.

### Cooperation of Specialty Groups

- For the record, here are the specialty groups that contributed so materially to the scientific and educational offerings contained in the Annual Session Program.
  - Tennessee Medical Foundation
  - Tennessee Section, American College of Physicians
  - Tennessee Academy of General Practice
  - Tennessee Academy of Ophthalmology & Otolaryngology
  - Tennessee Academy of Preventive Medicine & Public Health
  - Tennessee Chapter, College of Surgeons
  - Tennessee Diabetes Association
  - Tennessee Heart Association
  - Tennessee Society of Pathologists
  - Tennessee State Pediatric Society
  - Tennessee Psychiatric Association
  - Tennessee Radiological Society
  - Tennessee Society of Anesthesiology
  - Tennessee Thoracic SocietyWomen's Auxiliary to Tennessee State Medical Association.
- You will note that several new specialty groups, appear in the above. Several other societies that have not previously met during the State Meeting, changed their policy in order to hold their annual session at the time of the Annual Meeting of this Association.

### Business-wise

- Business-wise, the meeting was strictly up to standard. You are referred again to the abstracts of the proceedings of the House of Delegates and the Board of Trustees, as well as the proceedings of the Council. Also included are the abstracts of reports of officers and committees, all of which bear testimony to the outstanding job performed by the members of this Association. Such activities enable the Tennessee State Medical Association to occupy the lofty position of leadership that it enjoys among the state medical Associations of the nation.



## A Growing Membership

| Membership Report                         |              |              |
|---|--------------|--------------|
|   | Jan. 1, 1955 | Jan. 1, 1954 |
| Active Members:                           | 2188         | 2082         |
| Gain-106 Members                          |              |              |
| Veteran Members                           | 172          | 165          |
|   | <hr/>        | <hr/>        |
| Total                                     | 2360         | 2247         |
| Net Gain-113 Members                      |              |              |
| Percent of Gain 1955 over 1954-5%         |              |              |
| Members belonging to AMA-2040             |              |              |
| Percent of Members belonging to AMA 86.4% |              |              |
| Deceased in 1954-44                       |              |              |
| Membership Increase 1954 over 1950-12%    |              |              |
| Membership Increase 1954 over 1945-22%    |              |              |

## Special Highlights of the Annual Session

● Highlights were the President's Luncheon, where Dr. Kenneth B. Babcock, the Guest of Dr. John R. Thompson, Jr., gave a most inspiring and enlightening address on "The Accreditation of Hospitals." The President's Night affair was one that is not soon to be forgotten. The President-elect, Dr. Charles C. Trabue IV, rendered an outstanding challenge to the medical profession, which was included in his address entitled "Our Sacred Trust." The retiring President, Dr. John R. Thompson, Jr., summed up the actions and activities of this Association in his address entitled "In Our House Are Many Mansions." Both of these outstanding addresses were published in full in the April issue of the Journal.

## GP and Special Awards

● Special awards went to the winners of the Health Project Contest and the outstanding General Practitioner of the year. These awards were made on President's Night. The Award of a \$500 U. S. Bond to Miss Norris Dale McLemore and Miss Jo Anne Williford of Medina, Tennessee, was made to the winners of the Health Project Contest.

The Outstanding General Practitioner selected was a delightful man from Springhill, Tennessee, Dr. Bernard H. Woodard. Dr. Woodard is a worthy successor for the Outstanding GP Award. The presentation of the President's Gavel to Dr. Thompson in recognition of his service during his year as President, was a note-worthy event.

## New County Medical Societies

● The House of Delegates took action affecting the arrangement of the County Medical Societies that make up the Association. The White-Warren-Van Buren County Medical Society submitted its Charter and a petition was granted wherein Charters were issued to form individual County Societies for White and Warren Counties. Charters were issued to representatives from the White County Medical Society and the Warren County Medical Society in order that these two Societies could hold membership in the State Medical Association. The Charter of the Humphreys County Medical Society was submitted in order that Benton and Humphreys County could join into one functioning unit, thus becoming the Benton-Humphreys County Medical Society. It is intended with the cooperation and added work of these new units, that they will become stronger in their individual Counties and thus add strength to the Tennessee State Medical Association.

## Membership Meeting of Tennessee Medical Foundation

● The Tennessee Medical Foundation held its first annual meeting of the membership at a breakfast on Wednesday, April 13th. The By-Laws of the Foundation were amended relating to the election of members of the Board of Directors.

## New Officers of Tennessee Medical Foundation

● Following the election of the Board of Directors, the Board met and elected the officers. Dr. Ralph H. Monger, Knoxville was elected President; Dr. Ralph O. Rychener, Memphis, was named Vice-President and Dr. Daugh W. Smith, Nashville, was elected Secretary-Treasurer. Dr. Harrison Shull, Nashville, was appointed to the Committee on Health and Medical Care.



# Public Service

THE TENNESSEE TEN

## Driving Force



L. W. EDWARDS, M.D.

Leonard Wright Edwards, M.D., epitomizes the driving force, the tenacity of purpose, the capacity to expedite that are vital ingredients in the make-up of the Chairman of an aggressive and realistic committee such as that on Public Service.

His personal make-up also admirably fits the job, such as his sterling character, humanitarian concept of the practice of medicine and understanding of the problems involved in the spread of medical care.

When the TSMA created the Public Service Department five years ago and decided to call it "Public Service" and make it just that, the Trustees selected 16 men around the State who were known for their sincere and aggressive attitude in dealing with the public. These men have complemented Dr. Edwards' leadership with the strongest kind of support, with outstanding leadership in their own communities, both as practitioners and citizens. Their precepts and examples have made known to the public the real meaning of Public Service as it was conceived by the TSMA.

The problems involved in executing a Public Service program such as The Tennessee Ten were not particularly new to Dr. Edwards. He had served organized medicine in Tennessee in solid capacities long before

the PS Program was conceived.

For example, he fought doggedly for eight years, when he was Chairman of the TSMA Legislative Committee, to obtain enactment of a strong Basic Science law. He wouldn't take 'no' for an answer. He never does, when convinced he is right. The long battle paid off. Tennessee now has what is probably the strongest Basic Science law in the country. Evidence of that statement is the fact that other State Medical Associations are still trying to obtain enactment of identical laws.

In 1939, when there was a first blush of federal leaning toward Socialization of Medicine, Dr. Edwards pushed through the Tennessee legislature another Act designed to protect the public and profession in this State against any federal controls. The Act created the Medical Care Division of the Tennessee Department of Public Health and provided that any federal funds offered Tennessee for medical care would have to be cleared for acceptance and use by this Division. This was to be a safeguard against federal money with stifling strings coming into this State to hamstring or regiment the dissemination of medical care. It was this Division which finally inherited the job of administering the Tennessee Law known as "The Hospital Service for the Indigent Act."

Many physicians know how much Dr. Edwards has "lived" this campaign to provide medical care in hospitals for every truly medically-indigent Tennessean. It is inspiring to work closely with a fighting man who believes in what he is fighting for. That has been my privilege in this battle.

The obstacles and discouragements encountered in this four-year crusade for suffering people have been enough to stop many determined people. But not a man who believed in his cause with the same deep conviction and intense fervor as did Dr. Edwards. He tried all conceivable approaches and then ingeniously contrived some new ones. His interest became contagious and some physicians who at first looked at the project with a jaundiced eye later became converts and among the hardest workers.

Admittedly, we fell far short of our financial goal in the recent legislative session. However, we have progressed much farther much faster than other states having similar laws. After the legislature adjourned, the Public Service Committee Chairman kept on working for a larger appropriation. The Assemblymen were gone, yes, but the top State officials were still there in their offices and Dr. Edwards continued to "steam the oak" in an effort to obtain some kind of pledge to give support to a larger appropriation in the 1957 legislature. And he has obtained some encouragement already.



It was a double blow when a heart attack sent Dr. Edwards to Vanderbilt Hospital on March 27. He had prepared his Public Service Committee report and looked forward to reporting to the House of Delegates in Chattanooga. Also, he was about to participate on two separate programs of the Sectional Meeting of the American College of Surgeons in Nashville one week before the Chattanooga meeting. When he was taken to the hospital late on Sunday night, his first thoughts were about the two jobs he could not then carry out. He wanted to get in touch with someone that night to see that the jobs were carried out but of course attending physicians cut him off for several days.

Dr. Edwards is an outstanding example of "Past-Presidents" who continue to serve organized medicine in various ways. He was TSMA President in 1940 and a few years before had been President of the Nashville Academy of Medicine. His work for the profession and the public has provided solid contributions to medical teaching, at Vanderbilt and Meharry, and he has contributed much to the building and staffing of hospitals.

This man has a very appropriate nickname. It is "Win." I won't disclose the circumstances that gave him the nickname, even though I am moving away beyond his reach. But the sobriquet certainly is appropriate. He plans to win, he intends to win and I am indeed glad to have been on the Public Service team headed by Dr. Leonard "Win" Edwards.

The leaves from this bouquet to the Chairman must be shared among the staunch members of the Committee—the men who made Dr. Edwards' work effective, without whom he could not have won. So, for the record, it is a pleasure for me to present my other "bosses":

HARMON L. MONROE of Erwin and JOHN R. THOMPSON, JR., of Jackson, who joined Dr. Edwards on a sultry night in July, 1950, to draft a preliminary discussion paper for the Public Service pattern in Tennessee. Their vision and abilities have been felt nationally.

DR. CHARLES C. TRABUE IV of Nashville, new President of the Tennessee State Medical Association and charter member of the three-man Executive Subcommittee of the PS Committee. Dr. Trabue brought a broad and vigorous concept of Public Service to the program.

DR. JOHN OWSLEY MANIER of Nashville, whose strong character and brilliant mind influenced many of the effective Public Service Projects. He is the third member of the Executive Subcommittee.

DR. C. B. ROBERTS of Sparta, who began preaching the doctrine of Public Service long before the Committee was created and who has contributed some inspired and practical ideas that paid off in the highest tradition of medical service.

DR. WILLIAM CALVERT CHANEY of Memphis a past president of TSMA whose broad service as AMA delegate, plus his strong feeling about service to the public, made him a real force in Public Service projects and programs.

DR. THURMAN SHIPLEY of Cookeville led the way in down-to-earth PS projects such as working closely with the P.-T.A. and public schools in pre-school examination of children and reaching the public with our message through fair exhibits, etc.

DR. WILLIAM A. GARROTT of Cleveland, who was always in there pitching where pitching was needed, such as the delicate but highly important matter of protecting the public in matters involving medical ethics, being a full-time citizen although a very busy doctor, and encouraging the auxiliary in its projects.

DR. R. H. KAMPMEIER of Nashville, the highly capable Secretary-Editor of TSMA, whose deep and active interest in Public Service was matched by his excellent guidance and advice on delicate matters. He is now serving on the Executive Subcommittee and turned in a fine job on the Indigent program.

DR. CHARLES C. SMELTZER of Knoxville, another member who has long dreamed of a strong Public Service program for both his local and state medical organizations. Dr. Charlie worked hard to make that dream come true. He combines a fine, high-plane conception of Public Service with some extremely practical and expeditious methods of doing the job.

DR. WILLIAM K. OWEN of Pulaski is a physician whose patients think of as absolutely synonymous with Public Service. This solid practitioner of PS as well as medicine is the type of man who makes a Public Service Director wonder why he is needed anyway. Dr. Bill is a big credit to his profession and the Committee.

DR. J. PAUL BAIRD of Dyersburg has displayed an ingenious talent for finding new fields for the application of the Public Service theme. He no sooner finds them than he makes the application. His thoroughness makes it stick. He thinks deeply, plans carefully, executes thoroughly.

DR. WILLIAM N. COOK of Columbia, whose belief in Public Service is a faith so absolute that he lives it daily. He is a good idea man, a fine worker, highly capable speaker, and his understanding of the doctor-patient relationship is extremely deep for a physician so young.

(Continued on page 197)

**Construction of  
New Headquarters  
Building to Begin**

● The Board of Trustees of the Association, at the annual meeting in April, approved the plans presented by the Building Committee and ordered the construction of the new building. The old structure located on the property purchased more than a year ago for the Headquarters building, has been demolished and the contractors will get underway with the new building early this month. The building will cost approximately \$37,000.00 to erect. The new Headquarters will contain slightly less than 2,800 sq. ft. of working space, which will be divided into offices, file rooms, conference room and an adequate work-room and storage space for official records of the Association. The building is scheduled for completion by the end of 1955.

**Meeting of Public  
Service Committee**

● Members of the Public Service Committee met in Nashville on Saturday evening, May 14th, with the Vice-Chairman, Dr. H. L. Monroe, presiding. The purpose of the Committee meeting was to interview applicants for the position of Public Service Director. A number of applicants were present and appeared before the Committee for interview and discussion of their qualifications relative to the position. Following the interviews and careful study of each applicant by members of the Committee, it was voted to recommend three of the applicants to the Board of Trustees for possible employment. The Committee recommended for its first choice Mr. Jesse Hill Ford, Jr., of Gainesville, Florida, and formerly of Nashville to be employed as Public Service Director. The Board of Trustees immediately contacted Mr. Ford, offering him the position, and he has accepted. He will report for work on June 15th. Elsewhere in this issue of the Journal, under Medical News in Tennessee, is a full announcement and photograph of the New Public Service Director. He is excellently qualified to fill the position and his educational background and experience fit him well to carry out the important activities of the Tennessee State Medical Association in the field of Public Service.

**New Public Service  
Director Employed**

**Study Committee on  
Postgraduate Education**

● At the Annual Meeting in April, the House of Delegates heard discussions relative to the possible presentation of a new type of postgraduate education program in Tennessee. It was determined by the House that a Study Committee should be appointed for the purpose of examining the existing postgraduate education program, and in the event that a new or different type of program was recommended by the Study Committee, that the House of Delegates be called into special session to pass on any change in the present program. The Study Committee met in Nashville on Sunday, May 15th, with the Chairman, Dr. H. L. Monroe of Erwin, presiding. Important questions presented the the Committee by the Chairman were: (1) Shall the State Association conduct any postgraduate program (2) If so, shall it continue the present type of program? (3) Or, what type of program should it conduct?

**Three Important  
Questions Presented**

**Study Committee  
Recommendations**

● The Committee determined that the State Association should conduct a postgraduate program and practically unanimously favored the changing of the present type of circuit rider program. The Committee voted to recommend to the House of Delegates the following plan: (1) That the present type of program be changed to a symposium type, to be held in each of the ten councilor districts of the state and that not less than three such programs be conducted in each area per year. The program shall be held in alternating towns in each area. It was further recommended that these programs



shall be held in the late afternoon followed by an hour's intermission and then continued from 7:00 to 9:00 p.m. The program is to be presented by several qualified doctors and held in the form of a symposium on broad up-to-date subjects of interest to the profession at large. (2) That the Memphis office of the present postgraduate committee be abolished and that the administrative and field activities in postgraduate education be conducted by the State Association headquarters staff in Nashville. (3) That a tuition fee of \$10.00 per member per year be charged to those taking the course. The present charge is \$20.00 once each two years for those now participating in the course. These funds are to be used in part for the expenses of producing the symposium type program.

**Symposium Committee  
On Postgraduate  
Education**

● The Study Committee on Postgraduate Education then suggested that another Committee on Symposium Postgraduate Education be appointed for the purpose of studying the entire method of producing such a program and present all of the details to the House of Delegates in a called session on June 19th.

**Committee to  
Conduct Program**

● The Symposium Committee on Postgraduate Education shall be charged by the House of Delegates with working out the details of the proposed symposium program, choice and procurement of instructors, selection of subjects for discussion, dates and places of meetings and any other matters relative to the production and administration of the program. All of the details and workings of the proposed symposium type program will be presented to the House of Delegates in called session on June 19th. In the event that the House of Delegates approves the Study Committee's recommendation, the new Symposium Committee on Postgraduate Education will produce the program.

**Meeting of the  
Tennessee Medical  
Foundation Directors  
And Health and  
Medical Care  
Committee**

● Members of the Board of Directors and the Committee on Health and Medical Care of the Tennessee Medical Foundation met in Nashville on May 22nd. The meeting was presided over by the President, Dr. Ralph H. Monger of Knoxville.

● Members of the Board and the Committee discussed such matters as the progress report of the Foundation; the methods in which the membership drive to the Foundation could be expanded; addition of representatives on the committee on Health and Medical Care, other than members of the Tennessee State Medical Association; a replacement for Dr. David Meek in the Clear Fork Valley Community Clinic; discussion of a statewide rural health conference; supervision by the Foundation of the Target Areas, that is places where the Tennessee Medical Foundation assists in organizing and presenting medical facilities; Foundation activities in Middle and West Tennessee; and finances.

**New Booklet on  
Federal Income  
Tax Liability**

● The American Medical Association's Law Department has compiled a booklet on the Federal Income Tax Liability of physicians, consisting of a reprinting of four articles which appeared recently in the Journal. This booklet is available to County Medical Societies and individual physicians, without charge by writing the Law Department, American Medical Association, 535 North Dearborn Street, Chicago, Illinois.

**The AMA Annual  
Meeting**

● Delegates to the AMA from Tennessee for the annual meeting in Atlantic City were: Dr. C. M. Hamilton, Nashville; Dr. W. C. Chaney, Memphis; and Dr. Charles C. Smeltzer, Knoxville. Attending the Conference of Presidents was the President of the TSMA, Dr. Charles C. Trabue IV, Nashville. The Association was also represented by the Executive Secretary at other official meetings of the AMA and the Conference of Medical Association Executives. A number of physicians from Tennessee were in attendance at the annual meeting, especially at the scientific and special section presentations.

**TSMA Grant of \$1,000  
To American Medical  
Education Foundation**

● In keeping with instructions from the House of Delegates, the Tennessee State Medical Association has contributed \$1,000.00 to the American Medical Education Foundation. A letter from the Executive Secretary expresses the appreciation for the efforts of Tennessee physicians to aid the Foundation in attaining its annual goal of \$2,000.00.

# Public Service

THE TENNESSEE TEN

● Our Public Service program is now five years old and I am sure all of us are familiar with our major gains in this field up to this time. We have had many reports of the Public Service Committee and this section in our Journal each month to keep us informed of the activities of the Committee and Department.

● We have been extremely fortunate in having the leadership of Dr. L. W. Edwards and the direction of Ed Bridges in getting the program launched and reaching the goals we have attained to date. We are deeply grateful to both of them for all the time and effort, at times under extremely trying circumstances, which they have put into this program and we look forward to Dr. Edward's recovery from his recent illness and return to active leadership of the Committee. To Ed we say "thank you again" and come back to see us sometime.

● As we pass this milestone on the road to a better understanding between ourselves and all other people, I think we might pause to look back over the path we have taken but at the same time we should make a careful appraisal of the road ahead. We must set new goals and keep going with new determination to finish the projects already launched as well as going into new fields of endeavor.

● At the request of the Board of Trustees the Public Service Committee met and interviewed seven applicants for the position of Public Service Director. They recommended Mr. Jesse Ford and we feel that he is a man with a clear concept of our major aims. The Committee feels that he will quickly grasp the spirit of our program and will be able to suggest new lines of endeavor as he goes about the state meeting the Physicians and learning the specific problems. To Mr. Ford we extend a hearty welcome.

● As we pass this point in our program I think we will go forward with much more confidence and assurance that we are on firm ground. We can be sure that the committees of TSMA that deal in problems relating to our associations with all people will have the utmost support of the Public Service Committee. We cannot separate the programs of these committees because anything that makes better understanding and clarifies misunderstanding is public relations.

● To be more specific we might look at some of the points in our Tennessee Ten and immediately realize some things that need attention. We expressed our intention to inform our membership about Public Service problems AND constantly inform the public of our plans and progress in medical care. We have done that up to a certain point but there is lots of room for improvement, especially in the field of newspaper articles and news stories. Too many times this has been left to hospital administrators.

● In our plan to cooperate with other agencies we have the most fertile of all fields. There is not a single group or organization dealing with the health and welfare of the people that would not be happy to have more active participation by individual Physicians or groups of Physicians. Too



many times we think that it is unimportant or we are too busy to attend their meetings.

- There is a tremendous amount of work to be done in the field of prepaid insurance. We promised to educate ourselves in the field of prepaid insurance yet there is genuine worry in some quarters lest we kill the goose that could continue to lay the golden eggs. We may be threatening our own plan by unnecessary and diagnostic admissions to our hospitals.

- Our point two is titled "Rennaisance of Professional Ethics." One subheading is "work for improved relationships between specialist and general practitioners." We do not have a more pressing need than some definite active program within our own TSMA concerning this very problem. All people are fully aware of the rapid deterioration in G.P. specialist relationship and are becoming more bewildered as they try to decide what is best for them under any given circumstance. We must in some way try to recapture or reactivate the feeling of fellowship and comradeship that should be forthcoming when one Doctor meets another, whether as individuals or as a sub-group. The title M.D. must again be placed at the masthead and not take a back seat to any sub-group within the medical fraternity.

- Our press-radio code was unusually well received but it should be kept alive and active.

- We still need more nurses and we as Physicians can do more than any other group to make a career in nursing attractive to young women.

- We must always keep in mind the broad concepts of Public Service. If we will think, for one moment, about the ever widening fields of opportunity to actively implement other phases of our Public Service program we will realize that only a beginning has been made. We must not and cannot rest on our laurels at this point. We must bring into proper focus all activities of our TSMA and use the micrometer of public opinion along with our code of ethics in charting our future course. We must be ready, willing, and anxious to reach out in all directions with cooperation, understanding, and assistance to other groups and then we will be understood and regain some of our lost prestige.

- Our activities will not always be spectacular or wrapped in glamour but if we look straight ahead with integrity, frankness, understanding, and determination our efforts will be rewarded by better medical care for the people of Tennessee under far more pleasant conditions for the Physicians of Tennessee.

H. L. MONROE, M.D.



*From the  
Executive Secretary*

## ORGANIZATIONAL NEWS

### **Symposium Type Program Adopted For Postgraduate Education**

#### REPORT OF SPECIAL SESSION OF HOUSE OF DELEGATES, TSMA

● The House of Delegates of the Tennessee State Medical Association convened at a called session in Nashville on Sunday, June 19th, for the purpose of hearing a report and recommendations from the Study Committee on Postgraduate Education. Another matter discussed by the House was whether or not to adopt a policy of the TSMA relative to Salk Polio Vaccine. The House of Delegates at its regular session in April, directed that a Study Committee on Postgraduate Education be appointed to look into the existing program and to study the possibility of a different type program, and report its findings to a special meeting of the House. At the special session, The House of Delegates unanimously approved the recommendation of the Study Committee to present a symposium type of postgraduate education program instead of the present type.

### **Recommendations of Study Committee**

● The Study Committee, composed of Dr. H. L. Monroe, Chairman, Dr. John B. Youmans, Dr. R. H. Kampmeier, Dr. F. L. Roberts, Dr. Ben L. Pentecost, Dr. William A. Hensley, Dr. Julian K. Welch, Dr. L. A. Killeffer and Dr. W. K. Owen, reported to the House their recommendations, through the Chairman, Dr. Monroe. The Committee recommended the following plan: 1. That the present Circuit-Rider type of program be changed to a symposium type, to be held in each of the ten councilor districts of the state and that not less than three such programs be conducted in each District per year. The program will be presented in the form of a symposium on broad and up-to-date subjects of interest to the profession at large. 2. The Memphis office of the present Postgraduate Committee be abolished and the administrative and field activities of the Symposium program be conducted by the State Association Headquarters office in Nashville. 3. That a tuition fee of \$10.00 per member be charged to those taking the course.

### **Symposium Committee On Postgraduate Education to Administer Program**

● The symposium type program will be administered by a committee composed of Dr. F. L. Roberts, Chairman, Dr. John B. Youmans, Dr. Ben L. Pentecost, Dr. James G. Hughes, Dr. Julian K. Welch, Dr. Malcolm Tipton, Dr. A. Fount Russell, Dr. Frank Whitacre, Dr. Kenneth P. Brown, Dr. J. T. Moore, Jr., Dr. George Smith, Dr. William A. Garrott, Dr. Van Fletcher, Dr. Charles Sienknecht, Dr. L. A. Killeffer, Dr. Ralph E. Cross.

### **Will Cover Broad Subjects**

● The presentations will be on a general subject rather than a specialty, insofar as possible. One program will be presented in each Councilor District in the remaining months of 1955 with three meetings presented in each Councilor District during a calendar year. Full accreditation will be received by physicians attending the Courses.

**New Program to Be  
Conducted Over  
Wide Area**

● The following cities will be the locations where the program will be presented in the first year.

|                              |                             |
|------------------------------|-----------------------------|
| First District: Greeneville  | Second District: Maryville  |
| Johnson City                 | Oak Ridge                   |
| Kingsport                    | Knoxville                   |
| Third District: Cleveland    | Fourth District: Cookeville |
| Chattanooga                  | Lebanon                     |
| Athens                       | Crossville                  |
| Fifth District: Murfreesboro | Sixth District: Springfield |
| Shelbyville                  | Clarksville                 |
| Fayetteville                 | Nashville                   |
| Seventh District: Columbia   | Eighth District: Paris      |
| Dickson                      | Selmer                      |
| Pulaski                      | Jackson                     |
| Ninth District: Dyersburg    | Tenth District: Memphis     |
| Brownsville                  |                             |
| Union City                   |                             |

**Duties of the  
Symposium Committee**

● This Committee was charged by the House of Delegates with working out the details of the symposium program, choice and procurement of instructors, selection of subjects for discussion, dates and places of meetings and any other matters relative to the production and administration of the new type program. The Committee has already held one meeting and is well on its way to organizing an interesting program to present to doctors in Tennessee. The Symposia Committee has analyzed the cost and has come to the conclusion that the expense of the new program will not be more than one-half of the cost of the present circuit-rider type program.

**Resolution Adopted**

● The Symposium Committee on Postgraduate Education presented a Resolution to the House of Delegates, to the end that the report of the Symposium Committee be adopted and made the policy of the State Medical Association and that the Committee be authorized to activate the program as outlined in its report. The resolution was unanimously passed by the House.

**TSMA Policy Adopted  
On Polio Vaccine**

● Dr. R. H. Huthcheson, a member of the House and Commissioner of Health for Tennessee, gave a detailed report of his two hour and thirty-five minute report before a Senate Committee in Washington on the Polio vaccine problem. Dr. Huthcheson related in detail the questions asked of him by members of the Senate Committee as well as stating his prepared testimony concerning the two bills now before Congress.

**Resolution Presented  
To House**

● Dr. Laurence Grossman representing the Davidson County Delegation presented to the House the following Resolution:

**RESOLUTION**

WHEREAS, the benefits of vaccination against poliomyelitis when given by scientific methods are great, and  
WHEREAS, the public interest and good require that such vaccination be made widely available to the public according to properly developed plans, and

WHEREAS, the medical profession of Tennessee is desirous of cooperating fully in every way in such a program,  
THEREFORE BE IT RESOLVED, that the Tennessee State Medical Association notify the Tennessee State Board of Health and the State Commissioner of Health and through them the public, that they are making themselves fully available to administer such vaccine whenever provided, and, freely and without cost to those unable to pay, to the end that no child or adult will fail to receive such

(Continued on last page of this section)



# Public Service

## THE TENNESSEE TEN

### A Japanese Clock

● The Tezuka Company, Limited, of Japan, manufactures a cheap wall clock fashioned in the shape of an owl. The owl's eyes move from side to side when the pendulum is in motion, creating an effect which is both interesting and appalling.

Watching this clock, one has the impression that the owl fears something behind its field of vision and is rolling its eyes in a frantic effort to see whatever menace is stalking it.

### The Menace

● The menace, of course, is time itself. The owl, traditionally wise, combining ancient and mystic implications of prophecy and necromancy, was assigned by the Ancient Greeks to Pallas Athena as an emblem of her supernal wisdom. The Japanese have incorporated this emblem into a clock mechanism, animating the creature's eyes in a manner so clever and arresting as to give us pause.

In the practice of geriatrics, the physician grapples with the effects of time upon the human body. He finds, in many cases, the excesses and accidents of man's youth tragically altering the prognosis for a happy and productive old age. These signs are indelibly recorded in the human anatomy. They cannot be erased or changed because time, once past, is forever gone.

The owl, looking fearfully at the record of time past, holding in its breast a black clock face about which fragile white hands sweep implacably and constantly onward, brings us a message of eloquent wisdom.

### The Message

● Just as the physician cannot turn time back for the elderly patient and correct those unhealthy events in his past, so the medical profession, as a whole, cannot return to the past. The good old days are gone, and the inroads of socialism, made while the profession plodded on, unaware, and sometimes perhaps, unheeding, are now a part of time's indelible record.

### The Record of the Future

● However, there is no cause or excuse for apathy. The record of the future is being created now—this very instant—and it is the present which must be seized and shaped. The opportunity for good public relations is right here, right now. Every patient seen, every civic meeting attended, every professional, social, and religious function poses a golden opportunity for each doctor to insure for his ancient and honorable profession the high place in the future which it so richly deserves.

### Fear

● And there is nothing wrong with fear. A little fear is a healthy thing. In the right amount, fear is the handmaiden to valour. It is the prime ingredient of vigilance, without which no cause can be advanced.

### The Terms of Socialism

● Each physician must go forth armed with his beliefs and sure of his terms. He must examine himself to be sure what



he is for, and what he opposes. He must be constantly aware that the terms of socialism are not his terms, and by their very nature cannot be used to defend truth or promulgate his beliefs.

The philosophy of socialism is Godless. It denies the free spirit of man and would deprive him of his soul. It is a doctrine of mass thought control and a prelude to political slavery.

**The Grandfather Clock** ● The Medical Profession must realize this, to the end that, like the time honored grandfather clock, it may continue to occupy its proper place and face its responsibilities with open-handed honesty and without clever mechanisms or garish effects. Then, it will confidently toll forth the hours from its polished case, and, unlike the Tezuka Company's owl, will give no cause for unrest.

\* \* \* \*

#### **Arkansas Rural Health Conference**

● The Public Service Director attended the Fifth Annual Arkansas Rural Health Conference June 28-29 at Little Rock, with TSMA Rural Health Committee Chairman, Dr. W. N. Cook of Columbia, and Miss Sue Mayo, Dietician for the University of Tennessee Agricultural Extension Service, Knoxville.

The Conference was well attended, with 321 persons registered and about one hundred more present at most sessions.

#### **"Milk Break"**

● With good nutrition the number one plank in their six-point platform for better health, Arkansas rural leaders practiced what they preached by inaugurating a "Milk Break" at the Conference. Free half-pints of milk were furnished by the Central Arkansas Milk Producers Association.

Five state associations sponsored the two-day affair, including the Arkansas Medical Society and the Arkansas Farm Bureau Federation.

#### **Rural Civil Defense**

● Key-note speaker was Claude D. Head, Jr., M.D., Denton, Texas. As Medical Officer of Federal Civil Defense Administration, Region 5, Dr. Head told rural health delegates that agricultural communities must be prepared to hospitalize and care for casualties and refugees who will pour into the country-side by the thousands in the event of mass A-Bomb and H-Bomb attacks on this nation.

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vaccination because of inability to pay for administration."

#### **House Unanimously Adopted Resolution**

● The House unanimously adopted the resolution. It was amended to the end that copies be forwarded to Mrs. Hobby, Secretary of Health, Education and Welfare and to Senator Lister Hill the author of Senate Bill 2147.

#### **County Societies to Receive Survey Questionnaire**

● To find out what county medical societies throughout the country are doing and to help them to develop new public service programs, the AMA's Council on Medical Service currently is distributing questionnaires to all officers of the 1,911 County and District Medical Societies in the United States.

The information gained from these reports will be invaluable aid to societies seeking assistance in expanding their activities and will help the Council staff increase its ability to be of service to society officers and members.

*From the  
Executive Secretary*

## ORGANIZATIONAL NEWS

### **Expansion of Tennessee Plan Studied**

● The Executive Sub-Committee of the Prepaid Insurance Committee, TSMA, met jointly with members of the Advisory Committee from the Health Insurance Council and representatives from the Tennessee Hospital Service Association in Nashville on June 29th to study further expansion of the Tennessee Plan. A sub-committee had already been appointed and recommended a rider to be added to the Tennessee Plan on "In Hospital Medical Care." The recommendation of the sub-committee was for the payment of \$10.00 for the first day of hospitalization and \$4.00 for each additional day up to 21 days for medical cases. This would apply only to those policy holders of the Tennessee Plan that came within the income limits. Initiating such a plan will cause a multitude of problems and many of these were studied at length by the Executive Sub-Committee. Most of the problems involved were in the realm where surgical and medical problems are jointly encountered.

### **Several Plans Presented**

● Two other types of plans were discussed by the Committee, one being the "visit basis plan" and the second being the "cumulative plan." The Committee also discussed the possibility of establishing a fee schedule for medical care, the same type as the fee schedule now contained for the surgical schedule. After a lengthy meeting, it was determined by the Committee that this matter could not be settled with one meeting, and the Chairman instructed members of the Committee, The Tennessee Hospital Service Association and members of the Advisory Committee from the Health Insurance Council to continue with the study and to prepare a written presentation to be submitted at the next meeting.

### **Action in the AMA House of Delegates**

● Osteopathy, medical ethics, medical practices, intern training, hospital accreditation and polio vaccine were among the major topics of discussion by the House of Delegates of the American Medical Association's 104th annual meeting held June 6-10 in Atlantic City.

### **Minority Report Adopted on Osteopathy**

● The Reference Committee on Medical Education and Hospitals submitted two reports after considering the recommendations of the Committee for the Study of Relations Between Osteopathy and Medicine. The minority report, which was adopted by the House of Delegates, said:

1. "That the report of the Committee for the study of relations between Osteopathy and Medicine be received and filed; and that the Committee be thanked for its diligent work, and be discontinued.

2. "That if and when the House of Delegates of the American Osteopathic Association, their official policy-making body, may voluntarily abandon the commonly so-called 'osteopathic concept,' with proper deletion of said 'osteopathic concept' from catalogs of their colleges; and may approach the Trustees of the American Medical Association with a re-



quest for further discussion of the relations of Osteopathy and Medicine, then another special committee will be appointed for discussion."

#### **Change in Principles Of Medical Ethics**

● The Reference Committee on Miscellaneous Business dealt with ten resolutions concerning the dispensing of drugs and appliances by physicians. The following report was adopted by the House of Delegates of the AMA: The House recommended that the following be substituted in lieu of Section 8 of Chapter 1 of the Principles of Medical Ethics:

#### **DISPENSING OF DRUGS AND APPLIANCES BY PHYSICIANS**

"Section 8. It is not unethical for a physician to prescribe or supply drugs, remedies, or appliances as long as there is no exploitation of the patient."

One of the Resolutions submitted by the Delegates from Tennessee dealt with the dispensing of glasses. The House of Delegates of the Tennessee State Medical Association has instructed its delegates to the AMA to present such a resolution wherein it would be ethical for doctors of medicine to dispense glasses. The action of the AMA now makes such dispensing ethical.

#### **Action of AMA Affecting Oral Surgery**

● The question of oral surgery was discussed at considerable length and the following adopted. The action of the AMA House stated "that the oral (dental) surgeon be assigned to a surgical service of a hospital and perform such professional duties as the chief of the surgical service directed. Dental-oral surgery is to be limited to the diseases of the teeth and jaws and lesions of contiguous soft tissue related to diseases of the teeth and jaws but excluding malignancies."

This action established a definition of dental-oral surgery as far as the American Medical Association is concerned.

#### **Other Action of AMA House of Delegates**

● The AMA House of Delegates adopted the following recommendations:

#### **INTERNSHIPS**

1. "That a continuing study be made as to what should be the content of an internship; what constitutes sound clinical experience during the internship year.

2. "That the 'one-fourth rule' be adopted: Any internship program that in two successive years does not obtain one-fourth of its stated complement be disapproved for intern training."

#### **Accreditation of Hospitals**

● The present system of Accreditation of Hospitals came under heavy fire in the four of six resolutions indicating apparent widespread dissatisfaction. A special committee will make an independent study of the situation and report to the House at its next Annual Meeting in 1956.

#### **Salk Polio Vaccine**

● 1. The House disapproved of purchase and distribution of the vaccine by any agency of the federal government except for those unable to procure it for themselves and that such necessary federal funds be allocated to the various proper state agencies. 2. Questioned the methods used in presentation of the results of this particular medical research. 3. Commended Dr. Jonas Salk for his monumental contribution to medical science.



# Public Service

THE TENNESSEE TEN

## A Progressive Hospital Care Program

● Every county in this State last year was given an opportunity to participate in Hospital Service for the Indigent in Tennessee—the most progressive program of its kind in the Nation. By May 16 this year all but twenty-seven of the ninety-five counties had seen fit to adopt the program.

## Act Now

● Our county courts once again are being invited to become a part of this plan to provide hospital care for those who cannot pay. The Tennessee State Medical Association has sponsored this program from its inception and it now behooves every Tennessee physician to contact his County Judge and all of the magistrates possible, either in person, by mail, or telephone, to urge them to join the plan if they have not already done so.

## Indigent Care a Pressing Problem

● Care for citizens unable to pay for medical attention is one of the most pressing hospital problems today because there is no such thing as free hospital care. Someone must pay for the maintenance of the many expensive services provided by hospitals. The three possible sources of hospital income—donations, sick patients, and tax funds no longer shoulder the expense burden equally. The burden of the expense more and more is falling to the paying-sick patient who must pay not only for his own care, but for that of those who cannot pay, as well as for uncollected accounts, vacant beds, educational activities of the hospital, and the like.

## Our Strong Point

● Strong point of the plan is that the Tennessee physicians have agreed to treat free-of-charge all patients admitted to hospitals under provisions of the indigent hospitalization act. This is a telling blow to proponents of socialized medicine. The law assures good medical care to persons unable to pay. It further provides for a screening committee with a physician member to determine indigency, thus keeping "bargain seekers" and "free loaders" from taking advantage of a program designed to care only for people who cannot afford to pay...not those who can.

## State and County Share Expense

● In line with American ideals of self-government, the indigent hospitalization act (Public Charter 125, House Bill No. 905) puts administration of the program under the county courts. All matters of administration are left up to county governments who then bill the State for that part of their allocated funds which they have expended. There is no centralized control to dictate to the county governments. Nor does the State foot the entire bill. The program is administered under a system which provides that county appropriations for indigent hospitalization will be supplemented according to a set formula which takes into account the county's ability to pay and its indigent hospitalization needs.

The history of the program since its adoption in April, 1953, has been one of constant growth and progress.

The Public Service Committee under the leadership of its

Chairman, Dr. L. W. Edwards, has spared no efforts to bring all of our Tennessee counties under the plan.

#### **Pitch in and Help**

● This year our aim is 100% participation by Tennessee Counties. This goal can be accomplished only if every physician will make it his business to find out what steps are being taken by his county to come under the Plan. If your county is already under the Plan, pitch in and help the neighboring county come under it also. The time is now.

#### **Tennessee Valley Medical Assembly**

● Eighteen noted physicians from all parts of the Nation are programmed to treat a variety of topics at the Tennessee Valley Medical Assembly October 3-4 at the Read House, Chattanooga. Sponsored by the Chattanooga and Hamilton County Medical Society, Assembly planners say this year's session will be the biggest yet presented.

Honor guest for the banquet on the night of October 3 will be Dr. Elmer Hess of Erie, Pennsylvania, President of the American Medical Association.

Physicians who plan to attend should write immediately for reservations to Chattanooga, Inc., 819 Broad Street, Chattanooga, Tennessee. Attendance provides acceptable medical study requirements for continued membership in the American Academy of General Practice.

#### **Pilot Nursing Program**

● The Public Service Director called on administrators of a two-year nursing school program July 21 at Virginia Intermont College, Bristol, Virginia. The nursing program at Virginia Intermont is one of eight pilot programs sponsored by the Columbia University College of Nursing to determine whether competent registered nurses can be trained in two years instead of three and thus answer a nation-wide need for more bedside nurses.

#### **Plan Is Succeeding**

● All indications are that the program is showing itself to be a very successful research project. New York, New Jersey, Utah, Oregon, and Florida are only a few of the states in which similar nursing programs are being organized in junior colleges.

#### **Graduates Pass State Boards**

● Miss Bernice Skehan, graduate of the Yale University School of Nursing, heads the nursing program at Virginia Intermont. She reports that so far two U. S. junior colleges have graduated nursing classes. Every graduate passed her state board examinations to become a registered nurse, Miss Skehan added. The program for nursing students at Virginia Intermont, as elsewhere, is an intensive one. Students are carefully screened before being accepted. The attrition rate is high. Of 22 students accepted at V. I. in September, 1954, only 15 remain. Next year Miss Skehan plans to take in 26 students.

#### **They Lose No Time Toward B.A.**

● Unlike nurses who attend three-year hospital schools to receive a diploma, the two-year nursing graduates receive an A.A. (Associate of Arts) degree carrying with it two years college credit toward a B.A. Should they wish to continue their education they can do so without losing credits or time.

#### **Nurse Pays Her Own Tuition**

● Under the two-year plan the nurse pays her own tuition. After all, asks Miss Skehan, why shouldn't she? Almost all students preparing for a profession must pay for schooling.

#### **Tennessee Colleges Should Investigate**

● Although Miss Skehan admits that two-year schools may not be the whole answer to the nursing shortage, she is firmly convinced that this is a step in the right direction and one that Tennessee Junior Colleges should investigate.



*From the  
Executive Secretary*

## ORGANIZATIONAL NEWS

### T. S. M. A. OFFICE BUILDING TAKES SHAPE



#### Architects Drawing

● The Headquarters Office Building of the Tennessee State Medical Association is rapidly taking shape. The architect's drawing depicts the building as it will appear when finished. Several minor changes in the interior have been effected in order to liberalize the working space. The over-all size of the building as originally planned will not be changed. Upon completion, all administrative and headquarters activities of the Association will stem from the new building.

#### Tennessee Plan Now Covers 898,253 People

● The Tennessee Plan continues to show one of the most phenomenal growths of any surgical insurance plan in existence throughout the United States. This fact has been noted not only by leading insurers but by the Health Insurance Council which is the organization representing the majority of Insuring Companies. As of June 30, 1955, the plan showed a total of 898,253 participants. This represents 332,626 employees covered under the plan with 565,627 dependents, accounting for the total number covered. The Plan has shown a marked growth in the past nine months. The increase in coverage amounts to 133,625 persons since September 1, 1954. As has been previously stated, more and more it becomes apparent that a large percentage of a physician's income is received directly through some type of insurance and particularly through the Tennessee Plan.

#### Will Soon Reach 1,000,000

● At the present rate of growth, it is not unrealistic to expect the plan to cover at least 1,000,000 people by the close of 1955. The Insurance industry is watching the growth of the Plan and several new carriers have applied to the Association as to ways and means whereby they can become qualified as underwriters.



**New State  
Doctors Joining  
Plan**

● New physicians beginning practice in the State have also made application for participation in the Plan and any that have not applied and wish to do so, may write the Headquarters Office for information and a participating physicians agreement form, which will be forwarded thus enabling them to become a participating doctor under the plan.

**Policy Established  
For Polio Vaccine**

● Perhaps one of the most significant meetings of the Public Health Council of the State Department of Public Health, was held in Nashville on August 26th. In addition, members of the Advisory Committee to the Governor on Salk Polio-myelitis Vaccine met with the Public Health Council which is made up to a large extent of active members of the T.S.M.A. The meeting dealt altogether with the policy for the distribution of vaccine which is now becoming available.

**Following Policy  
Matters Discussed**

● The policy established was: 1. The manner in which the Advisory Committee on Poliomyelitis could be utilized in the forthcoming program. 2. The following age groups were adopted to receive priority in the polio vaccinations. They were (a) Children 5 to 9 inclusive plus pregnant women (b) The 1 through 4 age group. (c) Those 10 through 19 years of age. 3. Discussed manner in which the general public, private physicians, pharmacists and local health units will be kept informed of the policies and developments in the program. 4. Ways and means in which the Tennessee State Medical Association, County Medical Societies, Pharmaceutical Societies and other professional groups will participate in the vaccine distribution program. 5. Methods to coordinate and supervise the purchase of vaccine by public agencies. 6. Type of records to be maintained by physicians, pharmacists, local health units and others. 7. The ways in which the cooperation of physicians in adhering to priority groups will be obtained. 8. Methods utilized by the State in assuring that Vaccine is distributed equitably throughout the State, and the methods to be employed in determining when inequitable distribution occurs. 9. The extent to which communities and counties will develop their own plans for distribution in use of the vaccine. 10. Policies to be followed in the operation of public vaccination clinics. 11. Discussion and utilization of the available money for use in the administration and distribution of the vaccine program.

**Important Medical  
Activity**

● This is one of the most important medical activities of the day in which all physicians in the State are engaged. Doctors in practically every community in the State will be affected to some degree by this program.

**Symposium  
Postgraduate  
Program to Start**

● The Symposium Committee on Postgraduate Education of the TSMA will inaugurate its program this month. You will find elsewhere in this Journal a double-page spread of the entire schedule, faculty, and complete details of the subjects to be presented in the symposium for 1955. YOU ARE URGED TO CAREFULLY READ AND EXAMINE THE INFORMATION CONTAINED ON PAGES 344 and 345. Not only for the benefits that you will personally obtain, but to support and strengthen the new type program, every physician is urged to attend in the centers which are announced in this issue of the Journal. In addition, every doctor will receive personally, a notice of the subjects and the centers where the program will be conducted in his district.

# Public Service

## THE TENNESSEE TEN

### Child Accidents

- Needless accidental deaths and injuries to children in the one to fourteen year age group are on the increase according to reports released recently by leading life insurance companies. Tennesseans had this brought home to them quite sharply last month when an East Tennessee school bus collided with a train leaving eleven children dead, several more critically injured.

### Needless Tragedy

- Last year 12,000 U. S. children were accidentally killed. Forty percent died from accidents in the home. Many thousands more were needlessly maimed, scared, or permanently disabled, on the highways, on playgrounds, and in other public places.

### Safety Poster Contest

- Tennessee pediatricians are sponsoring a safety poster contest in the elementary schools in order to bring children, parents, and teachers to a greater awareness of the importance of accident prevention for little folks. They are being assisted by the Parent-Teachers Association and the National Safety Council. Pediatricians and other physicians have agreed to speak on child safety to P.T.A. groups this Fall and thus help the campaign along.

### Prime Example of Good PR

- It goes without saying that this is a prime example of good public relations at the grass roots. The Tennessee Academy of Pediatrics is to be congratulated for taking the lead in a much needed public education project. If you should be called upon to speak on child accident prevention before a P.T.A. group in your community, by all means do so. Excellent speech materials are available through the Tennessee Safety Council, 418 Cotton States Building, Nashville, and will be mailed on request.

Dr. Joe M. Strayhorn of Nashville is Tennessee Chairman of the American Academy of Pediatrics Accident Prevention Committee. District chairmen who are assisting with the poster contest are Dr. Jack Tepper, Chattanooga; Dr. Felix Line, Knoxville; Dr. W. W. Harrison, Jackson; and Dr. Albert M. Jones, Memphis.

### Country Doctor Honored

- The Dickson County Fair opened August 24 with a tribute to Dr. W. J. Sugg, 83, who has given fifty-eight years of his life to the practice of medicine in Tennessee.

A graduate of the 1897 class of the Nashville Medical College, (now the University of Tennessee Medical School) Dr. Sugg is still in practice at Dickson. He estimates that he has delivered 5,000 babies.

### Practice on Horseback

- Until 1914 when he acquired his first automobile, he made all of his calls by horseback or buggy. He rode five miles for an average call, but sometimes went twelve or more miles into the country to treat a sick patient or deliver a baby.

We are reminded that the practice of medicine in those days required a degree of dedication, strength and fortitude



seldom equaled before or since in the history of this Nation.

### **Night Call in the "Nineties"**

● The country doctor has never had an easy life. Said Dr. Sugg: "In those days I went as long as forty-eight hours at a stretch without sleep. People would come to the house on mule-back and wake me up at night. In the coldest weather I have dressed as warmly as I could and followed them for miles to an isolated farm house. Many times my boots have been frozen to the stirrups by the time we arrived. I'd kick them loose and go right on."

### **Equipment Cost \$15.00**

● His equipment consisted of a pair of leather saddle bags containing medicines, and a set of forceps. Total cost: \$15.00. This, with a sturdy horse, of the type known in those days as a fox trotter, sufficed to carry him on his rounds. Payment often came in the form of poultry, hams, and sometimes livestock. Some of his patients had no money. His greatest returns came from the satisfaction of seeing the sick respond to his treatment and become well again.

### **TMF Members Needed**

● The Tennessee Medical Foundation has underway a membership drive in the Tennessee State Medical Association. So far, memberships are far below the number required to keep this non-profit organization alive.

### **Foundation Can Help Medicine**

● It is time for Tennessee physicians to come to the aid of this effort. Under its broad charter, the Foundation can accomplish a great deal for health, welfare, and medical education in Tennessee. Without funds, however, it cannot be expected to expand its activities.

Similar foundations in other states have public spirited citizens, not physicians, directing them. Constant solicitation of funds and memberships make possible new medical schools, medical scholarships, and in some instances outstanding doctor placement services.

### **A Powerful Agent**

● The Tennessee Medical Foundation is controlled by members of the Tennessee State Medical Association and is a powerful agent in the hands of our physicians. Whether we like to think about it or not, the fact is that the trend toward socialization of medical care is on the upswing again after a comparative "recess" during World War II. The only effective measure for counteracting this process so far has been a willingness on the part of doctors and friends of the medical profession to show the public that they can correct medical care deficiencies WITHOUT government interference. The Tennessee Medical Foundation has the framework upon which an effective program of this type can be built. The Clear Fork Valley project has received acclaim.

Getting a doctor for that isolated community was a project of the Tennessee Medical Foundation.

### **Strike A Blow For Freedom**

● Under the guidance of the Foundation any number of similar tasks can be accomplished to the credit of Tennessee physicians. You have an opportunity now to strike a blow for the freedom of your profession. Send your membership to the Tennessee Medical Foundation, 422 West Cumberland Avenue, Knoxville, Tennessee.



*From the  
Executive Secretary*

## ORGANIZATIONAL NEWS

### **Trustees to Meet in Nashville on October 30**

● The Semi-Annual Meeting of the Board of Trustees will be held in Nashville on Sunday, October 30th. Preceding the meeting, members of the Board and the officers of the Association will attend the Vanderbilt-Virginia Football Game. A dinner will follow.

### **Matters for Consideration**

● The Board meeting will be at 10:00 A.M. on Sunday, October 30th and a full agenda will be acted upon. Important matters for consideration will be: (1) Consideration and adoption of a detailed financial statement covering the first three quarters of the present fiscal year. (2) Adoption of the budget for 1956. (3) Appointments to fill vacancies on various committees due to resignations and deaths. (4) Review of plans for 1956 Annual Meeting. (5) The progress report to be heard on the status of the Headquarters Building. (6) Review of the operation of all committees and activities in the Headquarters office. (7) New Business.

### **For Your Patients Only**

● An attractive new leaflet earmarked "for patients only" will be distributed shortly to all members of the AMA. Entitled "To All My Patients" this 12-page pamphlet, for physicians to distribute to their patients, explains the roles of various persons on the medical team in providing good medical care. In addition, the booklet briefly discusses medical and hospital fees and health insurance. Designed primarily to promote better doctor-patient relationships, the booklet also provides space for the doctor's name, address and office hours to be inserted at the end. Quantities will be available on request from the American Medical Association Office, Department of Public Relations, 535 North Dearborn Street, Chicago.

### **Regional Legislative Conferences**

● Dates have been set for a series of six regional legislative conferences to be sponsored in the fall. Purpose of the meetings is to discuss in detail the many important medical bills pending in Congress. Representatives of the Legislative Committee of the Tennessee State Medical Association will convene in Atlanta on November 6th to cooperate with representatives from surrounding states and the AMA. Many important issues on a National level will be discussed.

### **AMA Seal Disappears as Councils Expand Programs**

● The issuance of seals or emblems by any part of the American Medical Association has been discontinued. The recent change in policy of the product-evaluating councils is of wide interest to physicians. Since 1905 the Council on Pharmacy and Chemistry has evaluated and reported to the medical profession on drugs and related therapeutic procedures. The Council on Foods and Nutrition began evaluating nutritional claims and food products in 1929, and since 1948 there has been a Committee on Cosmetics. Because of the great demand caused by the tremendously and broadly expanding horizon in diagnostic, curative and preventive medicine, the American Medical Association and the Councils plan to devote more time to this important phase of their work and to broaden the entire scope and study on this program.

**Foundation Committee  
Tennessee Medical  
Expanded**

● The Board of Directors recently approved a motion to expand the Committee on Health and Medical Care to include representatives from the Tennessee State Dental Association and the Tennessee State Nurses' Association. Harvey C. Reese, D.D.S., of Nashville and Miss Mary Elizabeth Dunn, R.N., Executive Secretary and Counselor of the Tennessee State Nurses' Association, are the representatives selected.

**Membership Drive  
Meeting with Success**

● The Foundation continues to welcome the membership of physicians, dentists, nurses and other groups who are interested in an organization that is helping communities help themselves to better health. A membership costs only \$10.00 a year. The U. S. Treasury Department has officially ruled such contributions tax-exempt.

As of September 30, the Foundation membership was well over 600 members.

**Assistance Grants to  
New Physicians**

● Financial assistance and business know-how for young physicians entering practice is being made available by the Sears-Roebuck Foundation in cooperation with the American Medical Association. The program, a plan for helping others to help themselves, offers use of business and architectural research and unsecured ten-year loans up to \$25,000 for building office facilities.

Available for use by Tennessee physicians is a "planning guide for establishing medical practice units," which deals with eight basic elements in planning an office. Reception, business station, consultation, examination and treatment, laboratory, X-Ray and Diagnostic, toilet, and utilities-storage are the subjects discussed. The brochure may be borrowed on written application from your State Medical Association headquarters office. If you are planning to remodel your present office or if you intend to build, you will find this guide of considerable use to your architect and yourself. Details on loan applications may be had by writing the Director, Sears-Roebuck Board, 675 Ponce de Leon Avenue, Atlanta, Georgia.

**Symposium  
Postgraduate  
Education Program  
Activated**

● The first symposium in the new type of postgraduate education program got under way in September. The first session was held in Shelbyville on September 28th followed by the second in Columbia on September 29. Attendance at these sessions was not what was expected, but it is believed that when the program becomes better known, that additional doctors will take advantage of the outstanding presentations. Preliminary registrations for the programs to be held in other centers throughout the State indicate that an improved attendance will be registered for the sessions. Please refer to pages 344 and 345 of the September issue of the Journal for complete details of all programs, faculty and other information. A brochure on each program has been prepared and will be mailed to all physicians in the areas where the programs are to be presented. Advance registration is requested, but in the event that any doctor in the State finds that he can attend any of the sessions at the last minute, he can register. Representatives from the State Headquarters office will be present to handle arrangements and registration as well as to take care of attendance records and other details.



# Public Service

THE TENNESSEE TEN

## Tennessee Valley Medical Assembly

● The Tennessee Valley Medical Assembly at Chattanooga October 2-4 was attended by over 1,000 doctors. They represented thirty states.

Each of the scientific sessions held in the dining hall of the Read House was a "standing room only" proposition.

Dr. Guy Francis was Chairman of this year's Assembly. Assisted by a very able Committee and backed by the Chattanooga-Hamilton County Medical Society, he brought together a group of brilliant and well known lecturers.

Dr. Elmer Hess, President of the American Medical Association, attended this year's Assembly. In a press interview Sunday evening, October 2, and on a television appearance over station WDEF-TV the following Monday afternoon, he named the automobile as the number one medical problem of today. Noting that automobile accidents maim and kill far more Americans each year than any single disease, he added that car manufacturers, as well as lawmakers and police, have a responsibility in this problem.

He called for more and better safety devices. He said some attention should be given to the problem-driver who creeps along the highway at twenty-five miles per hour, causing traffic to string out in a frustrated line behind him.

Dr. Hess is not afraid to state his convictions. His forthright and outspoken manner should and does serve as an example to others.

## Nursing Survey

● Tennessee is being surveyed by the League for Nursing. The survey is attempting to find out more about our shortage of nurses and will bring together up-to-date information on the problem.

The Joint Declaration to the President's Commission on the Health Needs of the Nation, Vol. 1, Building America's Health, 1951, p. 18, states: "Despite the fact that more nurses are working today than ever before in the nation's history, a critical shortage of nursing service exists in almost every city and rural area. Virtually all employing agencies report shortages in their staffs." This is a statement concerning conditions in the country as a whole. Tennessee, in relation to population, has about 150 active civilian graduate nurses per 100,000 population as contrasted with five, six or more times that number in most parts of the Nation.

You may recall that Tennessee Nurses made a study in 1949. This information is out of date now, and the new survey will afford a new basis for recommendations for correcting a shortage which is a serious menace to good medical care.

## Tennessee Medical Foundation Accomplishments in Four Target Areas

● Definite progress has been realized in the Foundation's program to work with communities and assist them in improving local medical facilities and medical care. Various members of the Foundation contributed time and effort to help



establish the Morgan County Medical Center at Wartburg and the Clear Fork Community Clinic at Valley Creek. The La-Follette Community Hospital is due to be completed in October or November. The Foundation has met with the governing board of the Hospital and is assisting in finding a well-qualified administrator.

The clinic at Palmer is under way and will provide office space for a physician and a dentist. It is anticipated that the Foundation will be asked to help find a physician when the clinic is ready for operation.

#### **Professional Ethics**

● The greatest public service program in the world can be torn to shreds by the thoughtless action of a few individuals. For by and large, Mark Anthony's statement from the funeral oration over Caesar's corpse, still rings true.

Phrased by the immortal Shakespeare, it holds great significance for the medical profession today. "The evil that men do lives after them; the good is oft interred with their bones."

#### **An Evil Rumor**

● Yes. Unethical practice by a single physician not only casts a reflection upon himself and upon the other doctors in his community, but it leaves a stain on the entire medical profession as well. It starts an evil rumor that might be likened to the ever widening ripple caused by a stone dropped into a calm pool of water. The devastating magnitude of its effect often outweighs the gravity of the initial offense.

#### **Taint Lingers**

● And the taint lingers. Out of mind go the thousand and one good attitudes toward doctors and their profession. The fickle public heart buries the good name of the profession as surely as Caesar's corpse was laid in the tomb. It nourishes this evil rumor instead.

#### **Why?**

● We ask ourselves why. Consider Caesar once again. That Roman statesman and politician is reported to have said, "Caesar's wife must be above suspicion."

#### **The Good Name**

● And so she must. For Caesar's wife is, for our purposes, the medical profession. She is the good name of every single doctor.

#### **Future Depends Upon Reputation**

● Caesar was wise enough to know that his future with the government at Rome depended not only upon his statecraft but upon his reputation as well. The physician must realize that Professional Ethics goes hand-in-hand with professional skill, that he is linked through his profession to his confreres. The chain is continuous and is only as strong as its weakest link.

#### **A Personal Responsibility**

● The rotten apples must be gotten out of the barrel. The weak links must be removed. It is the personal responsibility of each physician to lend every effort toward purging the profession of mal-practitioners.

Bear in mind that "Section II" of "The Tennessee Ten" calls for a "Renaissance of Professional Ethics, Self-discipline at the county level," and "... high standards of practice."

#### **Bear a Hand**

● When you see a medical ethics violated, when you are called upon to assist in the correction of such a practice, bear a hand. You are hurting yourself if you do not.

*From the  
Executive Secretary*

## ORGANIZATIONAL NEWS

### **Study Conference on Social Security Expansion**

● Dr. C. M. Hamilton, Nashville, Chairman of the Legislative and Public Policy Committee of the TSMA, and your Executive Secretary attended a study conference on Social Security in Chicago on October 22nd which was called by the Board of Trustees of the American Medical Association. Approximately 200 representatives of Medical Associations from all 48 states studied the sweeping revisions in an amendment to the Social Security law passed 372 to 31 by the House of Representatives last summer and which is now before the Senate Finance Committee for hearings. You have perhaps already heard of this bill which is known as HR 7225. Emphasizing the medical profession's concern with that part of the proposed legislation relating to physicians and medical care, the Conference dealt specifically with the provisions of HR 7225 for Cash Benefits to the permanently and totally disabled at age 50.

### **Time for Action**

● Congress is now in recess and this is the time for action on the home front by the medical profession. Social Security (HR 7225) passed the House under cloture (no amendment—no public hearings—and only forty minutes of debate) does not include doctors of medicine in the new list. The medical profession's interest in this phase of Social Security is because Federal machinery to supervise the certification of disability would project the government into the field of medical practice. The AMA Board of Trustees said "the distance between our present medical freedom and complete government relation has narrowed considerably. The remaining gap will be closed completely unless physicians throughout the Nation take constructive action to educate themselves, the public and their Congressmen and Senators during the next few months."

### **Operation Low Pressure**

● Operation "Low Pressure" is the designated name for a national effort that will be made to head off the passage of HR 7225 in the Senate and to try and get Congress to take a "new look" into Social Security before any further sweeping changes.

### **National Campaign**

● The national campaign will use every possible means to arouse not only members of the medical profession but allied groups eager to combat the costly spread of socialism. More and complete information will be forwarded to members of the Association as the plans are unfolded for action on this crucial project in the coming months.

### **Compulsory Medical Care Feared**

● The fear was expressed at the conference that the association of cash benefits with medical care, as provided for in the proposed legislation, might be the beginning of a program of compulsory government dominated medical care. The need for more information before quick, politically-motivated action is taken was repeatedly cited, and the conference agreed that there is no need for immediate passage of the Bill with regard to "permanent" disability benefits.



## **Social Security a Complex Problem**

● Seldom has American Medicine been confronted with such a complex problem which demanded a thorough analysis of its political, medical and economic impact within the framework of wide popular acceptance.

## **1956 to Be Crucial Period**

● Organized Medicine is now in the process of setting up machinery to fight the battle against social security in 1956. An outside Council (Bozelle and Jacobs) have been employed by AMA to develop the proper approach to this campaign. The proposed social security amendment of 1956 is only a battle in the entire socialistic war. Plans call for all efforts to be used to win that battle.

## **Local Action Necessary**

● Action at the local level among all members of organized medicine is absolutely necessary to insure success in obtaining a study of proposed Social Security legislation. All steps planned in combating final passage of this measure will be utterly without meaning unless endorsed by a united medical profession. The Legislative Committee of your State Association will become more and more actively engaged in this project in the months ahead. In addition to the State Committee, the activation of County Society level committees to present resolutions, contact lawmakers, key people, and other organizations in an effort to head off passage of this measure, is necessary. More information will be furnished as plans progress.

## **Additional Insurance Underwriters for Tennessee Plan**

● With rapid expansion of the Tennessee Plan to approximately 1,000,000 people covered in the State, new interest has been aroused in the program throughout the Insurance Industry. Within the past two months, the Association has received inquiries from at least six large Insurance Companies wanting to know how to become a qualified underwriter in the Plan. The data has been furnished and two large carriers have met the requirements of the Association's Insurance Committee to become underwriters.

## **Two New Companies**

● The New England Mutual Life Insurance Company and the Gulf Life Insurance Company have submitted their policy forms, which have been approved by the Legal Council and the Committee of the Association. Both of these companies are outstanding additions to the number of underwriters already participating in the Plan. Additional patients covered in the plan can be expected with these two large companies now actively engaged in writing policies covering the public under the Tennessee Surgical Plan.

## **Liability and Malpractice Insurance**

● Ever seeking new ways to be of service to its members, the Insurance Committee of your Association is studying proposals for a group malpractice and liability insurance plan that can be made available to members of the Association. The Insurance Committee, in making a thorough study of these proposals, will make recommendations to the Board of Trustees on such a program, after which it will be presented through the House of Delegates to the membership. Considerable difficulty has been faced in trying to obtain companies that would make a proposal on this matter. At present, two companies have been willing to submit a plan in writing to the Association. It will probably be some time before the details can be worked out, but with the ever-mounting problem of liability and malpractice insurance facing members of the Association, this information is being made available in order to advise you of the studies that are underway.



# Public Service

## THE TENNESSEE TEN

### Allegorical Conflict

● QUACKERY, Ignorance, and Superstition are at war with Truth.

The war against Quackery bears eloquent proof of the great task which lies before the medical profession, for the sincerity of the quack's victims cannot be questioned.

Some are victims not only of quack remedies but of incurable diseases as well. Yet they are willing to mount the witness stand and state in clear voices that a hoax drug has cured them of cancer.

Missing from this parade of witnesses are the victimized dead. Theirs is the mute testimony which unfortunately cannot be heard in a court of law. Could they speak, there would be no question as to the fate of quackery, for it would be banished from our land.

There is some doubt in the minds of many as to whether the scourge of Quackery, the veil of Ignorance, and the plague of Superstition will ever be lifted from the human race. The point of diminishing returns, however, in organized medicine's crusade to educate people and thereby set them free of these demons, has not been reached by far.

NOT until the people of Tennessee have been made fully aware of the difference between Quackery and Ethical Medical Practice will this Scourge be banished.

NOT until our laws are so written and interpreted that scientific medical fact cannot be discredited in the court room by humbugery and jingoism will this veil be torn away and protection afforded the chronically ill who are now victimized every day by cure-all charlatans.

NOT until the medical profession has mustered its moral courage so that ethical physicians everywhere will speak out, to denounce with all their strength, the cure-all quacks, the spine manipulators—in short, all cultists—will this plague begin to come under control.

How pathetic, how frightening that suffering people mortgage their security grasping after straws! How dreadful is that parade of incurables, giving their last pennies for this or that concoction, invented by a scalawag witch doctor—this after ethical physicians have told them that medical science has done for them all it can.

### Ghouls!

"Quack" does not adequately describe those wretches who traffic in human despair and suffering. They are ghouls. They reap corrupt profits from the sick and the innocent. They are the leeches of the dying. Their crime is so heinous as to defy description. Yet year after year they go free.

Automobile thieves and confidence men are jailed. Murderers and assassins are hunted down and executed. Yet these Ghouls walk the streets and practice their macabre trade with virtual freedom and immunity from the law. THEY ARE EVEN LICENSED FOR THIS MURDER.

We must, therefore, inform the people of this situation. They must be alerted to the peril of Ghouls. Until no

effort is spared in this endeavor the blood of these innocents will be on your hands.

For too long Quackery, Ignorance, and Superstition have been combated gradually. The issues have been avoided, the unpleasantness covered over with high sounding promises of "Eventually" and "Someday".

Can anyone really believe that quackery will correct itself? Are the numbers of these licensed professional ghouls diminishing? Are the concoctors of fraudulent remedies in a state of bankruptcy? Are the manufacturers of hoax-medicines becoming fewer?

### The Facts

Let us face the facts. More cultists are being graduated from "schools" than ever before. American witch-doctors are enjoying unparalleled prosperity. Fraudulent remedies are selling at an ever-increasing rate, at prices more than one hundred to one thousand times that of penicillin. There are even nation-wide organizations which pretend to "develop" these "scientific" drugs. They publish "learned journals" which many lay people cannot differentiate from the Journal of the American Medical Association. They hold meetings and present "scholarly" papers in grim parody of the world they ape. Their practitioners capitalize on the assured demeanor and authoritative manner of the medical doctor, a manner which they copy to perfection.

The concerted efforts of an aroused and enlightened public can rid Tennessee of this evil, and it is toward this end that every effort must be bent. The assault must be headlong; the terms of peace, "unconditional surrender".

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### Public Service Committee Meeting

● TEN POINTS affecting public service policy came under discussion October 23 at the semi-annual meeting of the Public Service Committee in Nashville.

Dr. L. W. Edwards of Nashville, Committee Chairman, presided over the meeting which made policy decisions on indigent hospitalization, nursing, get-out-the-vote drives; ethics, economics and public relations courses for medical students; auxiliary public service, the Tennessee Medical Foundation, public opinion, medical news reporting, "The Tennessee Ten" revision, and television relations.

Present were Dr. Edwards, Drs. R. H. Kampmeier, Nashville; Charles C. Trabue IV, Nashville; W. K. Owen, Pulaski; W. N. Cook, Columbia; William A. Garrott, Cleveland; John M. Lee, Nashville; C. B. Roberts, Sparta; Charles C. Smeltzer, Knoxville; R. B. Wood, Knoxville; W. K. Sharp, Tennessee Department of Health, Nashville; C. M. Hamilton, Nashville; Dr. J. E. Ballentine, TSMA Executive Secretary, Nashville; and TSMA Public Service Director, Mr. J. H. Ford, Jr., Nashville.

The Committee approved an opinion survey of Tennessee colleges and universities which will determine some of the attitudes toward the medical profession which are being formed in institutions of higher education. It also endorsed an expanded public service program in television, and approved an annual press award to be given the newspaper reporter turning in the best job of medical news reporting.

Dr. W. K. Sharp's report on hospitalization for the indigent in Tennessee brought members up-to-date on the excellent progress that has been made in this program since it was begun in 1952.



*From the  
Executive Secretary*

## ORGANIZATIONAL NEWS

### **121st Annual Meeting Memphis—April 8-11, 1956**

● The 121st Annual Meeting of the Tennessee State Medical Association will be held at the Peabody Hotel in Memphis from April 8 through April 11, 1956. Plans and arrangements are being made for the annual session.

### **House of Delegates Meeting to Start in Afternoon on April 8**

● One change that came about due to a revision in the By-Laws at the last session is to delay the start of the first session of the House of Delegates on Sunday. Quite a bit of discussion has come about relative to conducting the House of Delegates meeting on Sunday. Due to the change in the By-Laws, the Speaker of the House with the approval of the Board of Trustees, has recommended that the House convene at 2:00 P.M. on Sunday afternoon April 8th. This will enable members of the House to attend church on Sunday morning or to rearrange their schedule for arriving at the first session of the House of Delegates.

### **Change in Plans for President's Night**

● The President's Night will be changed somewhat from previous annual meetings. It is planned that a guest speaker will be invited to address the annual meeting and doctors wives will also be invited to the annual banquet to be held on President's Night. The President-Elect will make his inaugural speech also.

### **General Plan of Scientific Sessions**

● The general scientific sessions will be conducted on the mornings of April 9, 10 and 11 with the afternoons of the same days given over to scientific programs of the specialty groups which will meet concurrently with the Association. The annual President's Night will be conducted on Monday Evening, April 9th, and Tuesday and Wednesday will be held open for specialty groups to conduct their banquet and business sessions.

### **Hotel Peabody to Be Headquarters**

● We have optioned all of the available space at the Peabody Hotel for the general headquarters. The exhibits, the general scientific programs, the President's Night program and the House of Delegates meeting will be held in the Peabody. In addition to the public space, more than 300 rooms are available to our members. Physicians should make their hotel reservations directly with the Hotel at an early date.

### **Semiannual Meeting of Board of Trustees**

● The Board of Trustees held their semiannual meeting on October 30th in Nashville. The Board confirmed the recent appointments to the Editorial Board of the JOURNAL. Dr. Albert Weinstein of Nashville and Dr. Addison B. Scoville, Jr., of Nashville were officially named as members of the Editorial Board.

### **Financial Report Submitted**

● The Executive Secretary presented the Board with a detailed financial statement covering the period from January 1-October 31, 1955, including all receipts and disbursements, fund balances and a proposed budget for the year 1956. After analyzing the financial report, it was approved. The Board made several changes, then approved the budget for 1956. The budget for 1956, as submitted by the Executive Secretary, was supported by pertinent data based on experience and need. Also a budget was adopted for the



Symposium Committee on Postgraduate Education. This is a new activity administered by the central headquarters office and the Board of Trustees approved the budget which had previously been recommended.

#### **New Committee Appointments**

● Dr. R. A. Davison of Memphis was appointed to the Symposium Postgraduate Education Committee. Dr. Davison is the Regional Advisor of the Committee on Education for the American Academy of General Practice.

Dr. William J. Sheridan, Jr., Chattanooga, has been appointed Chairman of the Committee on Veterans Affairs and Dr. James A. Kirtley, Jr., Nashville, has accepted the Chairmanship of the Prepaid Insurance Committee. He succeeded Dr. N. S. Shofner, who had resigned.

#### **Membership Requirements Increased for AAGP**

● The American Academy of General Practice Congress of Delegates increased the membership requirements effective January 1, 1956. The candidate for membership will be required to have completed one of the following: (1) two years of graduate training acceptable to and approved by the Commission on Education; (2) one year graduate training acceptable to and approved by the Commission on Education followed by two years of general practice; or (3) three years of general practice.

#### **Symposium PG Program Approved**

● The Symposium Postgraduate program now conducted by your State Medical Association has been approved for Category I rating by the Regional Advisor for the Commission on Education of the American Academy of General Practice. All physicians attending the PG programs will be certified to the AAGP headquarters to receive official credit on required hours.

#### **Postgraduate Committee Meets**

● The Symposium Committee on Postgraduate Education met in Nashville on November 12. Purpose of the meeting was to select the subjects and the panel members for the programs that will be presented in 1956. A number of suggestions and innovations were submitted to the committee as a result of the experience gained to date from the programs conducted this year.

#### **Subjects to Be Presented**

● The subjects that will be presented over the State next year are: (1) Traumatic and Emergency Surgery; (2) Chest and Abdominal Pain; (3) Cancer—Its Detection and Treatment; and (4) Jaundice. These programs will be conducted in each medical Councilor district throughout the State, making a total of thirty postgraduate programs for next year.

#### **Regional Legislative Conference Most Significant**

● The Committee on Legislation of the American Medical Association sponsored a regional legislative conference in Atlanta on November 6th. Dr. Charles C. Trabue, IV, President, Dr. C. M. Hamilton, Chairman of the Legislative Committee, and other members of the State Association's Legislative Committee were present for the conference in addition to the Executive Secretary. Also present were the President and other officers of the Woman's Auxiliary to the Tennessee State Medical Association.

#### **Vital Issues**

● A number of vital subjects were discussed. Among these were Health Reinsurance and Mortgage Loan Insurance, Medicine and the Treaty Power, Veterans' Medical Care, Tax Deferred Retirement Plans, Military Medicine, Federal Aid to Medical Education and Compulsory Disability Coverage under Title II of the Social Security Act. Also presented for discussion were many facets of the Polio program and the latest available information on the Doctor Draft. The meeting was conducted by members of the Legislative Committee of the American Medical Association and staff officers of the A.M.A. Law Department.

# Public Service

## THE TENNESSEE TEN

### Are Placement Services Taxable?

● THE TENNESSEE DEPARTMENT OF LABOR is conducting an investigation of nursing registries in this State to determine whether they should be tax exempt or come under regulations governing private employment agencies.

Joseph S. Slate, Deputy Commissioner of Labor, is heading the investigation which is inspecting registries of both Registered Nurses and Licensed Practical Nurses.

Attorneys representing both professional groups contend that the registries are a public service and do not come under the category of employment agencies.

Ward DeWitt is representing the Registered Nurses and K. T. McConnico is representing the Practical Nurses. Both men are Nashville lawyers.

A ruling on the question will come in the next few weeks from the office of the Attorney General. Assistant Attorney General James M. Glasco will study the results of the investigation and hear the arguments of the attorneys, reports indicated.

Whether placement services for professional persons engaged in the care of the sick should be taxed under the state law should be the concern not only of nursing associations, but of the entire medical profession as well. The whole question as to whether a nonprofit organization serving the public interest can be taxed in this manner is one which could cause wide repercussions.

### Your Doctor Speaks— On TV!

● THE "YOUR DOCTOR SPEAKS" TV SERIES being telecast over WDXI-TV (Channel 7) in Jackson is enjoying good success with a 10:30-11:00 p.m. spot Mondays.

Sponsored by the West Tennessee Consolidated Medical Assembly in cooperation with station WDXI-TV and the TSMA, the series is presenting six panels on topics of interest to the public.

Dr. H. P. Clemmer, President of the West Tennessee Consolidated Medical Assembly, is Moderator for the series. Panelists for the first telecast November 28 on "The Human Heart" were Dr. Gordon Turner, Jr., Linden; Dr. John Thornton, Brownsville; Dr. C. W. Hickman, Bells; and Dr. G. B. Wyatt, Jackson.

Dr. Swan Burrus, Jr., Dr. Hughes Chandler, and Dr. Walter Harrison, all of Jackson, and Dr. H. W. Whitaker of Savannah were panelists for the December 5 telecast on "Cancer."

Some of the programs have feature presentations halfway through the telecasts. The heart program showed a film, never before telecast, on "Decortication of the Heart." The third program December 12 on "Speech and Hearing Problems" featured a five minute lecture demonstration by Miss Betty Caraway, Speech Therapist for the West Tennessee Speech and Hearing Clinic. She showed how children are tested for hearing difficulties in the public schools with the use of an audiometer.

The entire series is being tape-recorded in order to send



the A.M.A. PR office information copies. The series will be edited into six fifteen minute radio programs for stations outside the WDXI viewing area.

#### **Press Series on Auto Accidents**

● SIX FEATURE STORIES on the automobile, a prime medical problem, are being released to Tennessee newspapers.

The first of the series, released December 1, tied in with the postgraduate symposia presented early this month at Jackson (December 7), Dyersburg (December 8) and Memphis (December 9). It was based on interviews of the symposium faculty for "Traumatic and Emergency Surgery" consisting of Dr. George L. Inge and Dr. James L. Southworth both of Knoxville, and Dr. Greer Ricketson Assistant Professor of Surgery, Vanderbilt University, Nashville.

The series hinges on the statement of A.M.A. President Dr. Elmer Hess at the Chattanooga-Hamilton County Medical Assembly (October 2-4) where he told reporters that the Number One medical problem of America today is the automobile—not any certain disease.

The stories will discuss automobile injuries and safety devices. They will be based on interviews of TSMA physicians.

#### **TSMA Press Award Board Named**

● TEN NEWS EDITORS and five physicians were named recently to serve as board members for the annual \$300 award to be given by the TSMA to the Tennessee reporter turning in the best job of medical news reporting.

Named to the Press Award Board for two years were Silliman Evans, Jr., of THE NASHVILLE TENNESSEAN; Ben Golden of THE CHATTANOOGA TIMES; Guy Easterly, THE LA FOLLETTE PRESS; Frank Ahlgren, THE COMMERCIAL APPEAL, Memphis; Charles Rooks, THE COURIER-CHRONICAL, Humboldt, also President, Tennessee Press Association; Dr. L. W. Edwards, Nashville, Chairman of the TSMA Public Service Committee; Dr. H. L. Monroe, Erwin, Vice-Chairman, TSMA Public Service Committee; and Dr. John R. Thompson, Jr., Jackson.

Members of the Press Award Board for one year will be Allison Simonton, THE COVINGTON LEADER; Zollie Howard, THE MEMPHIS PRESS-SCIMITAR; John Bragg, THE RUTHERFORD COURIER, Murfreesboro; Loyce W. Miller, THE NEWS-SENTINEL, Knoxville; Horace Wells, THE COURIER-NEWS, Clinton; Dr. Charles C. Trabue IV, Nashville, TSMA President, and Dr. R. B. Wood, Knoxville, TSMA President-Elect.

Accepting his appointment to the Board, Charles Rooks, Tennessee Press Association President, praised the plan and predicted that it will greatly stimulate medical reporting over the State.

He also noted that besides the Pulitzer Prize and one other award, reporters have little opportunity to win recognition such as this. He termed the action of the TSMA praiseworthy and added that although many prizes are given newspapers and editors, few are given reporters who deserve great credit for the contributions they make to journalism.

"This is certainly a step in the right direction by the medical profession," he said.

#### **"Friday Afternoon Confidential" Gets A.M.A. Plaudits**

● FRIDAY AFTERNOON CONFIDENTIAL, new TSMA Public Service Department PR newsletter to Trustees and Public Service Committee members, will be distributed to A.M.A. affiliate societies in the PR Doctor Exchange.

Writes PR Doctor Editor Mrs. Katherine Harrison: "Naturally, the idea of a public relations newsletter is not new, but we feel that this is a particularly good example of what we think is an important outlet for public relations news. Perhaps this will inspire some other societies to follow your example."











